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THE WORKS

OF

FRANCIS BACON.

Facsimile

OF

THE TITLEPAGE OF THE MANUSCRIPT

OF THE

VALERIUS TERMINUS.

See pp. 18. and 25.

Fac-simile of the Title page of the Original M.S. (Harl. M.S.S. 6463.)
See Note at the end of the Preface.

Valerius Terminus

of the Interpretation of Nature with the Annotations of

Hermes Stella.

A few fragm^ts of ye first Booke; v^e.

1 The first chapter Entier, ~~touchn~~ Of ~~ye endes and limitts of Knowledge~~

2 A portion of the xj^th chapter ~~Of the scale~~

3 A small portion of the ix^th chapter ~~being an Inducem^t to ye Inventorye~~

4 A small portion of the xth chapter ~~being the p^r face to ye Inventorye~~

5. A small portion of the xi^th chapter ~~being a preface to ye inward Elenches of the mynd~~

~~Of the Interpretacon~~

6 - A small portion of the iiij^th chapter
~~of the impedimts of knowledge in generall~~

7th A small portion of the vth chapter ~~of ye~~
~~division of wyttes.~~

8 The vj^th chapter Entrer ~~of~~

9 A portion of the vij^th chapter

10 The viij^th chapter Entrer

11 A nother portion of the ix^th chapter

12 The Abridgm^t of the 12. 13. 14. 15. 16. 17.
18. 19. 21. 22. 25. 26th chapters
of ye first booke

13. The first chapter of ~~the~~ a booke of
the same argum^t wrytten in Latine
and destined ~~for~~ to be ~~traditionary~~ separate and
not publike.

Nome of ye Annotations of Stella
are sett down in these fragments.

Philosophy.

Fac-simile of the writing on the Cover

Ex: ſt. 26 ♒ : 1603 B. 45^r. ✗ /
Libri dimidiu' est, pag^a 34 / —
Pagellaru' numeri veri. /

Bacon, Francis, viscount [illegible]

THE

WORKS

OF

FRANCIS BACON,

BARON OF VERULAM, VISCOUNT ST. ALBANS, AND
LORD HIGH CHANCELLOR OF ENGLAND.

Collected and Edited

BY

JAMES SPEDDING, M.A.
OF TRINITY COLLEGE, CAMBRIDGE;

ROBERT LESLIE ELLIS, M.A.
LATE FELLOW OF TRINITY COLLEGE, CAMBRIDGE;

AND

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The Facsimile to face the back of the Fly-title.

VALERIUS TERMINUS.

PREFACE

TO

VALERIUS TERMINUS.

BY ROBERT LESLIE ELLIS.

THE following fragments of a great work on the Interpretation of Nature were first published in Stephens's Letters and Remains [1734]. They consist partly of detached passages, and partly of an epitome of twelve chapters of the first book of the proposed work. The detached passages contain the first, sixth, and eighth chapters, and portions of the fourth, fifth, seventh, ninth, tenth, eleventh, and sixteenth. The epitome contains an account of the contents of all the chapters from the twelfth to the twenty-sixth inclusive, omitting the twentieth, twenty-third, and twenty-fourth. Thus the sixteenth chapter is mentioned both in the epitome and among the detached passages, and we are thus enabled to see that the two portions of the following tract belong to the same work, as it appears from both that the sixteenth chapter was to treat of the doctrine of idola.

It is impossible to ascertain the motive which determined Bacon to give to the supposed author the name of Valerius Terminus, or to his commentator, of whose

annotations we have no remains, that of Hermes Stella. It may be conjectured that by the name Terminus he intended to intimate that the new philosophy would put an end to the wandering of mankind in search of truth, that it would be the *terminus ad quem* in which when it was once attained the mind would finally acquiesce.

Again, the obscurity of the text was to be in some measure removed by the annotations of Stella; not however wholly, for Bacon in the epitome of the eighteenth chapter commends the manner of publishing knowledge "whereby it shall not be to the capacity nor taste of all, but shall as it were single and adopt his reader." Stella was therefore to throw a kind of starlight on the subject, enough to prevent the student's losing his way, but not much more.

However this may be, the tract is undoubtedly obscure, partly from the style in which it is written, and partly from its being only a fragment. It is at the same time full of interest, inasmuch as it is the earliest type of the *Instauratio*. The first book of the work ascribed to Valerius Terminus would have corresponded to the *De Augmentis* and to the first book of the *Novum Organum*, the plan being that it should contain whatever was necessary to be known before the new method could be stated. In the second book, as in the second book of the *Novum Organum*, we should have found the method itself.

The *Advancement of Learning*, which was developed into the *De Augmentis*, corresponds to the first ten chapters of *Valerius Terminus*, and especially to the first and tenth. To the remainder of the book (a few chapters are clearly wanted after the last mentioned in

the epitome) corresponds the first book of the *Novum Organum*. The tenth chapter, of which we have only a small fragment, is entitled "The Inventory, or an Enumeration and View of Inventions already discovered and in use; together with a note of the wants, and the nature of the supplies." It therefore corresponds to the second book of the *Advancement*, and to the last eight books of the *De Augmentis*, but would doubtless have been a mere summary.[1] When Bacon subsequently determined to give more development to this part of the subject, he was naturally led to make a break after the inventory, and thus we get the origin of the separation between the *De Augmentis* and the *Novum Organum*.

The most important portion of *Valerius Terminus* is the eleventh chapter, which contains a general statement of the problem to be solved. It corresponds to the opening axioms of the second book of the *Novum Organum*, but differs from them in containing very little on the subject of forms. What Bacon afterwards called the investigation of the form he here calls the freeing of a direction. The object to be sought for is, he says, "the revealing and discovering of new inventions and operations." — "This to be done without the errors and conjectures of art, or the length or difficulties of experience." In order to guide men's travels, a full direction must be given to them, and the fulness of a direction consists in two conditions, certainty and liberty. Certainty is when the direction is infallible; liberty when it comprehends all possible ways and means. Both conditions are fulfilled by the knowledge of the form, to which the doctrine of direc-

[1] See my note at the end of this Preface. — *J. S.*

tion entirely corresponds. This correspondency Bacon recognises towards the end of the chapter, but in illustrating the two conditions of which we have been speaking he does not use the word form. The notion of the form or formal cause comes into his system only on historical grounds. In truth, in *Valerius Terminus* he is disposed to illustrate the doctrine of direction not so much by that of the formal cause as by two rules which are of great importance in the logical system of Ramus. "The two commended rules by him set down," that is by Aristotle, "whereby the axioms of sciences are precepted to be made convertible, and which the latter men have not without elegancy surnamed, the one the rule of truth because it preventeth deceipt; the other the rule of prudence because it freeth election; are the same thing in speculation and affirmation, which we now affirm." And then follows an example, of which Bacon says that it "will make my meaning attained, and yet percase make it thought that they attained it not." In this example the effect to be produced is whiteness, and the first direction given is to intermingle air and water; of this direction it is said that it is certain, but very particular and restrained, and he then goes on to free it by leaving out the unessential conditions. Of this however it is not now necessary to speak at length; but the "two commended rules" may require some illustration.

In many passages of his works Peter Ramus condemns Aristotle for having violated three rules which he had himself propounded. To these rules Ramus gives somewhat fanciful names. The first is the rule of truth, the second the rule of justice, and the third the rule of wisdom. These three rules are all to be ful-

filled by the principles of every science (axiomata artium). The first requires the proposition to be in all cases true, the second requires its subject and predicate to be essentially connected together, and the third requires the converse of the proposition to be true as well as the proposition itself. The whole of this theory, to which Ramus and the Ramistæ seem to have ascribed much importance, is founded on the fourth chapter of the first book of the *Posterior Analytics*. Aristotle in speaking of the principles of demonstration explains the meaning of three phrases, κατὰ παντός, *de omni;* καθ' αὑτό, *per se;* and καθόλου, *universaliter*. When the predicate can be affirmed in all cases and at all times of the subject of a proposition, the predication is said to be *de omni* or κατὰ παντός. Again, whatever is so connected with the essence of a thing as to be involved in its definition is said to belong to it *per se*, καθ' αὑτό, and the same phrase is applicable when the thing itself is involved in the definition of that which we refer to it. Thus a line belongs *per se* to the notion of a triangle, because the definition of a triangle involves the conception of a line, and odd and even belong *per se* to the notion of number, because the definition of odd or even introduces the notion of a number divisible or not divisible into equal parts.[1] Lastly, that which always belongs to any given subject, and belongs to it inasmuch as it is that which it is, is said to belong to it καθόλου, *universaliter*. Thus to have angles equal to two right angles does not belong to any figure taken at random, it is not true of figure κατὰ παντός, and though it is true of any isosceles

[1] Aristotle mentions a third sense of κατὰ παντός, which it is not here necessary to mention.

triangle yet it is not true of it in the first instance[1] nor inasmuch as it is isosceles. But it is true of a triangle, in all cases and because it is a triangle and therefore belongs to it καθόλου, *universaliter*. It is manifest that whenever this is the case the proposition is convertible. Thus a figure having angles equal to two right angles is a triangle.

Aristotle is not laying down three general rules, but he was understood to do so by Ramus — whose rules of truth, justice, and wisdom respectively correspond to the three phrases of which we have been speaking.

Bacon adopting two of these rules, (he makes no allusion to that of justice,) compares them with the two conditions which a direction ought to fulfil. If it be certain, the effect will follow from it at all times and in all cases. And this corresponds to the rule of truth. If it be free, then whenever the effect is present the direction must have been complied with. The presence of either implies that of the other. And this is the practical application of the rule of wisdom.

I have thought it well to enter into this explanation, because it shows in the first place that the system of Peter Ramus had considerable influence on Bacon's notions of logic, and in the second that he had formed a complete and definite conception of his own method before he had been led to connect it with the doctrine of forms.

At the end of the eleventh chapter Bacon proposes to give three cautions whereby we may ascertain whether what seems to be a direction really is one. The general principle is that the direction must carry you a degree or remove nearer to action, operation, or light;

[1] ἀλλ' οὐ πρῶτον, ἀλλὰ τὸ τρίγωνον πρότερον.

else it is but an abstract or varied notion. The first of the three particular cautions is "that the nature discovered be more original than the nature supposed, and not more secondary or of the like degree:" a remark which taken in conjunction with the illustrations by which it is followed, serves to confirm what I have elsewhere endeavoured to show, that Bacon's idea of natural philosophy was the explanation of the secondary qualities of bodies by means of the primary. The second caution is so obscurely expressed that I can only conjecture that it refers to the necessity of studying abstract qualities before commencing the study of concrete bodies. Composition subaltern and composition absolute are placed in antithesis to each other. The latter phrase apparently describes the synthesis of abstract natures by which an actual ultimate species is formed, and the former [refers] to the formation of a class of objects which all agree in possessing the nature which is the subject of inquiry. The fragment breaks off before the delivery of this second caution is completed, and we therefore know nothing of the third and last.

NOTE.

THE manuscript from which Robert Stephens printed these fragments was found among some loose papers placed in his hands by the Earl of Oxford, and is now in the British Museum; Harl. MSS. 6462. It is a thin paper volume of the quarto size, written in the hand of one of Bacon's servants, with corrections, erasures, and interlineations in his own.

The chapters of which it consists are both imperfect in themselves (all but three), — some breaking off abruptly, others being little more than tables of contents, — and imperfect in their connexion with each other; so much so as to suggest the idea of a number of separate papers loosely put together. But it was not so (and the fact is important) that the volume itself was actually made up. However they came together, they are here fairly and consecutively copied out. Though it be a collection of fragments therefore, it is such a collection as Bacon thought worthy not only of being preserved, but of being transcribed into a volume; and a particular account of it will not be out of place.

The contents of the manuscript before Bacon touched it may be thus described.

1. A titlepage, on which is written "VALERIUS TERMINUS of the Interpretation of Nature, with the annotations of HERMES STELLA."
2. "Chapter I. Of the limits and end of knowledge;" with a running title, "Of the Interpretation of Nature."
3. "The chapter immediately following the Inventory; being the 11th in order."
4. "A part of the 9th chapter, immediately precedent to the Inventory, and inducing the same."
5. "The Inventory, or an enumeration and view of inventions already discovered and in use, together with a note of the

wants and the nature of the supplies; being the 10th chapter, and this a fragment only of the same."

6. Part of a chapter, not numbered, "Of the internal and profound errors and superstitions in the nature of the mind, and of the four sorts of Idols or fictions which offer themselves to the understanding in the inquisition of knowledge."
7. "Of the impediments of knowledge; being the third chapter, the preface only of it."
8. "Of the impediments which have been in the times and in diversion of wits; being the fourth chapter."
9. "Of the impediments of knowledge for want of a true succession of wits, and that hitherto the length of one man's life hath been the greatest measure of knowledge; being the fifth chapter."
10. "That the pretended succession of wits hath been evil placed, forasmuch as after variety of sects and opinions the most popular and not the truest prevaileth and weareth out the rest; being the sixth chapter."
11. "Of the impediments of knowledge in handling it by parts, and in slipping off particular sciences from the root and stock of universal knowledge; being the seventh chapter."
12. "That the end and scope of knowledge hath been generally mistaken, and that men were never well advised what it was they sought" (part of a chapter not numbered).
13. "An abridgment of divers chapters of the first book;" namely, the 12th, 13th, and 14th, (over which is a running title "Of active knowledge;") and (without any running title) the 15th, 16th, 17th, 18th, 19th, 21st, 22nd, 25th, and 26th. These abridgments have no headings; and at the end is written, "The end of the Abridgment of the first book of the Interpretation of Nature."

Such was the arrangement of the manuscript as the transcriber left it; which I have thought worth preserving, because I seem to see traces in it of two separate stages in the developement of the work; the order of the chapters as they are transcribed being probably the same in which Bacon wrote them; and the numbers inserted at the end of the headings indicating the order in which, when he placed them in the transcriber's hands, it was his inten-

tion to arrange them; and because it proves at any rate that at that time the design of the whole book was clearly laid out in his mind.

There is nothing, unfortunately, to fix the *date* of the transcript, unless it be implied in certain astronomical or astrological symbols written on the blank outside of the volume; in which the figures 1603 occur.[1] This may possibly be the transcriber's note of the time when he finished his work; for which (but for one circumstance which I shall mention presently) I should think the year 1603 as likely a date as any; for we know from a letter of Bacon's,

[1] See the second page of the facsimile at the beginning of this volume. The writing in the original is on the outside of the last leaf, which is in fact the cover. The front cover, if there ever was one, is lost. The ink with which the line containing the symbols is written corresponds with that in the body of the MS.; and the line itself is placed symmetrically in the middle of the page, near the top. The two lower lines are apparently by another hand, probably of later date, certainly in ink of a different colour, and paler. The word "Philosophy" is in Bacon's own hand, written lightly in the upper corner at the left, and is no doubt merely a docket inserted afterwards when he was sorting his papers. What connexion there was between the note and the MS. it is impossible to say. But it is evidently a careful memorandum of something, set down by somebody when the MS. was at hand; and so many of the characters resemble those adopted to represent the planets and the signs of the zodiac, that one is led to suspect in it a note of the positions of the heavenly bodies at the time of some remarkable accident; — perhaps the plague, of which 30,578 persons died in London, during the year ending 22nd December, 1603. The period of the commencement, the duration, or the cessation of such an epidemic might naturally be so noted. Now three of the characters clearly represent respectively Mercury, Aquarius, and Sagittarius. The sign for Jupiter, as we find it in old books, is so like a 4, that the first figure of 45 may very well have been meant for it. The monogram at the beginning of the line bears a near resemblance to the sign of Capricorn in its most characteristic feature. And the mark over the sign of Aquarius appears to be an abbreviation of that which usually represents the Sun. (The blot between 1603 and B is nothing; being only meant to represent a figure 6 blotted out with the finger before the ink was dry.) Suspecting therefore that the writing contained a note of the positions of Mercury and Jupiter in the year 1603, I sent a copy to a scientific friend and asked him if from such data he could determine the month indicated. He found upon a rough calculation (taking account of mean motions only) that Jupiter did enter the sign of Sagittarius about the 10th of August, 1603, and continued there for about a twelvemonth; that the Sun entered Aquarius about the 12th or 13th of January, 1603–4; and that Mer-

dated 3rd July 1603, that he had at that time resolved "to meddle as little as possible in the King's causes," and to "put his ambition wholly upon his pen;" and we know from the *Advancement of Learning* that in 1605 he was engaged upon a work entitled "The Interpretation of Nature:" to which I may add that there is in the Lambeth Library a copy of a letter from Bacon to Lord Kinlosse, dated 25th March, 1603, and written in the same hand as this manuscript.

Bacon's corrections, if I may judge from the character of the handwriting, were inserted a little later; for it is a fact that about the beginning of James's reign his writing underwent a remarkable change, from the hurried Saxon hand full of large sweeping curves and with letters imperfectly formed and connected, which he wrote in Elizabeth's time, to a small, neat, light, and compact one, formed more upon the Italian model which was then coming into fashion; and when these corrections were made it is evident that this new character had become natural to him and easy. It is of course impossible to fix the precise date of such a change, — the more so because his autographs of this period are very scarce, — but whenever it was that he corrected this manuscript, it is evident that he then considered it worthy of careful revision. He has not merely inserted a sentence here and there, altered the

cury was about the 16th or 17th of the same month in the 26th or 27th degree of Capricorn :— coincidences which would have been almost conclusive as to the date indicated, if Capricorn had only stood where Aquarius does, and vice versâ. But their position as they actually stood in the MS. is a formidable, if not fatal, objection to the interpretation.

According to another opinion with which I have been favoured, the first monogram is a *nota bene;* the next group may mean *Dies Mercurii* (Wednesday) 26*th January*, 1603; and the rest refers to something not connected with astronomy. But to this also there is a serious objection. The 26th of January, 1603–4, was a Friday; and it seems to me very improbable that any Englishman would have described the preceding January as belonging to the year 1603. Bacon himself invariably dated according to the civil year, and the occasional use of the historical year in loose memoranda would have involved all his dates in confusion. I should think it more probable that the writer (who may have been copying a kind of notation with which he was not familiar) miscopied the sign of Venus into that of Mercury; in which case it would mean *Friday*, 26th January, 1603–4. But even then the explanation would be unsatisfactory, as leaving so much unexplained. Those however who are familiar with old MSS. relating to such subjects may probably be able to interpret the whole.

numbers of the chapters, and added words to the headings in order to make the description more exact; but he has taken the trouble to add the running title wherever it was wanting, thus writing the words "of the Interpretation of Nature" at full length not less than eighteen times over; and upon the blank space of the titlepage he has written out a complete table of contents.[1] In short, if he had been preparing the manuscript for the press or for a fresh transcript, he could not have done it more completely or carefully, — only that he has given no directions for altering the order of the chapters so as to make it correspond with the numbers. And hence I infer that up to the time when he made these corrections, this was the form of the great work on which he was engaged: it was a work concerning the Interpretation of Nature; which was to begin where the *Novum Organum* begins; and of which the first book was to include all the preliminary considerations preparatory to the exposition of the formula.

I place this fragment here in deference to Mr. Ellis's decided opinion that it was written before the *Advancement of Learning*. The positive ground indeed which he alleges in support of that conclusion I am obliged to set aside, as founded, I think, upon a misapprehension; and the supposition that no part of it was written later involves a difficulty which I cannot yet get over to my own satisfaction. But that the body of it was written earlier I see no reason to doubt; and if so, this is its proper place.

The particular point on which I venture to disagree with Mr. Ellis I have stated in a note upon his preface to the *Novum Organum*, promising at the same time a fuller explanation of the grounds of my own conclusion, which I will now give.

The question is, whether the "Inventory" in the 10th chapter of *Valerius Terminus* was to have exhibited a general survey of the state of knowledge corresponding with that which fills the second book of the *Advancement of Learning*. I think not.

It is true indeed that the title of that 10th chapter, — namely, "The Inventory, or an enumeration and view of inventions already discovered and in use, with a note of the wants and the nature of the supplies," — has at first sight a considerable resemblance to the description of the contents of the second book of

[1] See the facsimile. I am inclined to think that there was an interval between the writing of the first eleven titles and the last two; during which the Italian character had become more familiar to him.

the *Advancement of Learning*, — namely, "A general and faithful perambulation of learning, with an inquiry what parts thereof lie fresh and waste, and not improved and converted by the industry of Man; . . . . wherein nevertheless my purpose is at this time to note only omissions and deficiencies, and not to make any redargutions of errors," and so on. But an "enumeration of *Inventions*" is not the same thing as "a perambulation of *Learning*;" and it will be found upon closer examination that the "Inventory" spoken of in *Valerius Terminus* does really correspond to one, and one only, of the fifty-one *Desiderata* set down at the end of the *De Augmentis*; viz. that *Inventarium opum humanarum*, which was to be an appendix to the *Magia naturalis*. See *De Aug.* iii. 5. This will appear clearly by comparing the descriptions of the two.

In the *Advancement of Learning* Bacon tells us that there are two points of much purpose pertaining to the department of Natural Magic: the first of which is, "That there be made a calendar resembling an Inventory of the *estate of man*, containing *all the Inventions, being the works or fruits of nature or art*, which are now extant *and of which man is already possessed*; out of which doth naturally result a note what things are yet held impossible or not invented; which calendar will be the more artificial and serviceable if to every reputed impossibility you add what thing is extant which cometh the nearest in degree to that impossibility: to the end that by these optatives and essentials man's inquiry may be the more awake in deducing direction of works from the speculation of causes."

The Inventory which was to have been inserted in the 10th chapter of *Valerius Terminus* is thus introduced: — "The plainest method and most directly pertinent to this intention will be to make distribution of *sciences, arts, inventions, works*, and their portions, *according to the use and tribute which they yield and render to the condition of man's life*; and under those several uses, being as several offices of provisions, to charge and tax what may be reasonably exacted or demanded, ... and then upon those charges and taxations to distinguish and present as it were in several columns *what is extant and already found*, and what is *defective and further to be provided*. Of which provisions because in many of them, after the manner of slothful and faulty accomptants, it will be returned by way of excuse that no such are to be

had, it will be fit to give some light *of the nature of the supplies;* whereby it will evidently appear that they are to be compassed and procured." And that the calendar was to deal, not with knowledge in general, but only with arts and sciences of *invention* in its more restricted sense — the *pars operativa de natura* (*De Aug.* iii. 5.) — appears no less clearly from the opening of the 11th chapter, which was designed immediately to follow the "Inventory." "It appeareth then what is now in proposition, not by general circumlocution but by particular note. No former philosophy," &c. &c. "but the revealing and discovering of *new inventions and operations*, ... the nature and kinds of which inventions *have been described* as they could be discovered," &c. If further evidence were required of the exact resemblance between the Inventory of *Valerius Terminus* and the Inventarium of the *Advancement* and the *De Augmentis*, I might quote the end of the 9th chapter, where the particular expressions correspond, if possible, more closely still. But I presume that the passages which I have given are enough; and that the opinion which I have elsewhere expressed as to the origin of the *Advancement of Learning*, — namely, that the writing of it was a by-thought and no part of the work on the Interpretation of Nature as originally designed, — will not be considered inconsistent with the evidence afforded by these fragments.

That the *Valerius Terminus* was composed before the *Advancement*, though a conclusion not deducible from the Inventory, is nevertheless probable: but to suppose that it was so composed *exactly in its present form*, involves, as I said, a difficulty; which I will now state. The point is interesting, as bearing directly upon the development in Bacon's mind of the doctrine of Idols; concerning which see preface to *Novum Organum*, note C. But I have to deal with it here merely as bearing upon the probable date of this fragment.

In treating of the department of Logic in the *Advancement*, Bacon notices as altogether wanting "the particular elenches or cautions against *three* false appearances" or fallacies by which the mind of man is beset: the "caution" of which, he says, "doth extremely import the true conduct of human judgment." These false appearances he describes, though he does not give their names; and they correspond respectively to what he afterwards called the Idols of the Tribe, the Cave, and the Forum. But he makes no mention of the fourth; namely, the Idols of the Theatre. Now

in *Valerius Terminus* we find two separate passages in which the Idols are mentioned; and in both all four are enumerated, and all by name; though what he afterwards called Idols of the Forum, he there calls Idols of the Palace; and it seems to me very unlikely that, if when he wrote the *Advancement* he had already formed that classification he should have omitted all mention of the Idols of the Theatre; for though it is true that that was not the place to discuss them, and therefore in the corresponding passage of the *De Augmentis* they are noticed as to be passed by "for the present," yet they *are* noticed by name, and in all Bacon's later writings the confutation of them holds a very prominent place.

To me the most probable explanation of the fact is this. I have already shown that between the composition and the transcription of these fragments the design of the work appears to have undergone a considerable change; the order of the chapters being entirely altered. We have only to suppose therefore that they were composed before the *Advancement* and transcribed after, and that in preparing them for the transcriber Bacon made the same kind of alterations in the originals which he afterwards made upon the transcript, and the difficulty disappears. Nothing would be easier than to correct "three" into "four," and insert "the Idols of the Theatre" at the end of the sentence.

And this reminds me (since I shall have so much to do with these questions of date) to suggest a general caution with regard to them all; namely, that in the case of fragments like these, the comparison of isolated passages can hardly ever be relied upon for evidence of the date or order of composition, or of the progressive development of the writer's views; and for this simple reason, — we can never be sure that the passages as they now stand formed part of the original writing. The copy of the fragment which we have may be (as there is reason to believe this was) a transcript from several loose papers, written at different periods and containing alterations or additions made from time to time. We may know perhaps that when Bacon published the *Advancement of Learning* he was ignorant of some fact with which he afterwards becamē acquainted; we may find in one of these fragments, — say the *Temporis Partus Masculus*, — a passage implying acquaintance with that fact. Does it follow that the *Temporis Partus Masculus* was written after the *Advancement of Learning*? No; for in looking over the manuscript long after it was written, he

may have observed and corrected the error. And we cannot conclude that he at the same time altered the whole composition so as to bring it into accordance with the views he then held; for that might be too long a work. He may have inserted a particular correction, but meant to rewrite the whole; and if so, in spite of the later date indicated by that particular passage, the body of the work would still represent a stage in his opinions anterior to the *Advancement of Learning*.

I have felt some doubt whether in printing this fragment, I should follow the example of Stephens, who gave it exactly as he found it; or that of later editors, who have altered the order of the chapters so as to make it agree with the numbers. The latter plan will perhaps, upon the whole, be the more convenient. There can be little doubt that the numbers of the chapters indicate the order in which Bacon meant them to be read; and if any one wishes to compare it with the order in which they seem to have been written, he has only to look at Bacon's table of contents, which was made with reference to the transcript, and which I give unaltered, except as to the spelling.

The notes to this piece are mine.— *J. S.*

VALERIUS TERMINUS

OF

THE INTERPRETATION OF NATURE:

WITH THE

ANNOTATIONS OF HERMES STELLA.[1]

A few fragments of the first book, viz.

1. The first chapter entire. [Of the ends and limits of knowledge.]
2. A portion of the 11th chapter. [Of the scale.]
3. A small portion of the 9th chapter [being an Inducement to the Inventory.]
4. A small portion of the 10th chapter [being the preface to the Inventory.]
5. A small portion of the 16th chapter [being a preface to the inward elenches of the mind.]
6. A small portion of the 4th chapter. [Of the impediments of knowledge in general.]

[1] This is written in the transcriber's hand: all that follows in Bacon's. The words between brackets have a line drawn through them. For an exact facsimile of the whole made by Mr. Netherclift, see the beginning of the volume.

7. A small portion of the 5th chapter. [Of the diversion of wits.]

8. The 6th chapter entire. [Of]

9. A portion of the 7th chapter.

10. The 8th chapter entire.

11. Another portion of the 9th chapter.

12. The Abridgment of the 12. 13. 14. 15. 16. 17. 18. 19. 21. 22. 25. 26th chapters of the first book.

13. The first chapter of [the] a book of the same argument written in Latin and destined [for] to be [traditionary] separate and not public.[1]

None of the Annotations of Stella are set down in these fragments.

[1] This refers to the first chapter of the *Temporis Partus Masculus*; which follows in the MS. volume, but not here. It is important as bearing upon the date of that fragment.

OF

THE INTERPRETATION OF NATURE.

Cap. 1.

Of the limits and end of knowledge.

In the divine nature both religion and philosophy hath acknowledged goodness in perfection, science or providence comprehending all things, and absolute sovereignty or kingdom. In aspiring to the throne of power the angels transgressed and fell, in presuming to come within the oracle of knowledge man transgressed and fell;[1] but in pursuit towards the similitude of God's goodness or love (which is one thing, for love is nothing else but goodness put in motion or applied) neither man or spirit ever hath transgressed, or shall transgress.

The angel of light that was, when he presumed before his fall, said within himself, *I will ascend and be like unto the Highest;* not God, but the highest. To be like to God in goodness, was no part of his emulation; knowledge, being in creation an angel of light, was not the want which did most solicit him; only because he was a minister he aimed at a supremacy; therefore his climbing or ascension was turned into a throwing down or precipitation.

Man on the other side, when he was tempted before he

[1] This clause is repeated in the margin, in the transcriber's hand.

fell, had offered unto him this suggestion, *that he should be like unto God.* But how? Not simply, but in this part, *knowing good and evil.* For being in his creation invested with sovereignty of all inferior creatures, he was not needy of power or dominion; but again, being a spirit newly inclosed in a body of earth, he was fittest to be allured with appetite of light and liberty of knowledge; therefore this approaching and intruding into God's secrets and mysteries was rewarded with a further removing and estranging from God's presence. But as to the goodness of God, there is no danger in contending or advancing towards a similitude thereof, as that which is open and propounded to our imitation. For that voice (whereof the heathen and all other errors of religion have ever confessed that it sounds not like man), *Love your enemies; be you like unto your heavenly Father, that suffereth his rain to fall both upon the just and the unjust,* doth well declare, that we can in that point commit no excess; so again we find it often repeated in the old law, *Be you holy as I am holy;* and what is holiness else but goodness, as we consider it separate and guarded from all mixture and all access of evil?

Wherefore seeing that knowledge is of the number of those things which are to be accepted of with caution and distinction; being now to open a fountain, such as it is not easy to discern where the issues and streams thereof will take and fall; I thought it good and necessary in the first place to make a strong and sound head or bank to rule and guide the course of the waters; by setting down this position or firmament, namely, *That all knowledge is to be limited by religion, and to be referred to use and action.*

For if any man shall think by view and inquiry into these sensible and material things, to attain to any light for the revealing of the nature or will of God, he shall dangerously abuse himself. It is true that the contemplation of the creatures of God hath for end (as to the natures of the creatures themselves) knowledge, but as to the nature of God, no knowledge, but wonder; which is nothing else but contemplation broken off, or losing itself. Nay further, as it was aptly said by one of Plato's school *the sense of man resembles the sun, which openeth and revealeth the terrestrial globe, but obscureth and concealeth the celestial;* so doth the sense discover natural things, but darken and shut up divine. And this appeareth sufficiently in that there is no proceeding in invention of knowledge but by similitude; and God is only self-like, having nothing in common with any creature, otherwise than as in shadow and trope. Therefore attend his will as himself openeth it, and give unto faith that which unto faith belongeth; for more worthy it is to believe than to think or know, considering that in knowledge (as we now are capable of it) the mind suffereth from inferior natures; but in all belief it suffereth from a spirit which it holdeth superior and more authorised than itself.

To conclude, the prejudice hath been infinite that both divine and human knowledge hath received by the intermingling and tempering of the one with the other; as that which hath filled the one full of heresies, and the other full of speculative fictions and vanities.

But now there are again which in a contrary extremity to those which gave to contemplation an over-large scope, do offer too great a restraint to natural and law-

ful knowledge, being unjustly jealous that every reach and depth of knowledge wherewith their conceits have not been acquainted, should be too high an elevation of man's wit, and a searching and ravelling too far into God's secrets; an opinion that ariseth either of envy (which is proud weakness and to be censured and not confuted), or else of a deceitful simplicity. For if they mean that the ignorance of a second cause doth make men more devoutly to depend upon the providence of God, as supposing the effects to come immediately from his hand, I demand of them, as Job demanded of his friends, *Will you lie for God as man will for man to gratify him?* But if any man without any sinister humour doth indeed make doubt that this digging further and further into the mine of natural knowledge is a thing without example and uncommended in the Scriptures, or fruitless; let him remember and be instructed; for behold it was not that pure light of natural knowledge, whereby man in paradise was able to give unto every living creature a name according to his propriety, which gave occasion to the fall; but it was an aspiring desire to attain to that part of moral knowledge which defineth of good and evil, whereby to dispute God's commandments and not to depend upon the revelation of his will, which was the original temptation. And the first holy records, which within those brief memorials of things which passed before the flood entered few things as worthy to be registered but only lineages[1] and propagations, yet nevertheless honour the remembrance of the inventor both of music and works in metal. Moses again (who was the reporter) is said to have been seen

[1] *kinages* in original. See note 2. p. 387. of vol. v.

in all the Egyptian learning, which nation was early and leading in matter of knowledge. And Salomon the king, as out of a branch of his wisdom extraordinarily petitioned and granted from God, is said to have written a natural history of all that is green from the cedar to the moss, (which is but a rudiment between putrefaction and an herb,) and also of all that liveth and moveth. And if the book of Job be turned over, it will be found to have much aspersion of natural philosophy. Nay, the same Salomon the king affirmeth directly that the glory of God *is to conceal a thing, but the glory of the king is to find it out*, as if according to the innocent play of children the divine Majesty took delight to hide his works, to the end to have them found out; for in naming the king he intendeth man, taking such a condition of man as hath most excellency and greatest commandment of wits and means, alluding also to his own person, being truly one of those clearest burning lamps, whereof himself speaketh in another place, when he saith *The spirit of man is as the lamp of God, wherewith he searcheth all inwardness;* which nature of the soul the same Salomon holding precious and inestimable, and therein conspiring with the affection of Socrates who scorned the pretended learned men of his time for raising great benefit of their learning (whereas Anaxagoras contrariwise and divers others being born to ample patrimonies decayed them in contemplation), delivereth it in precept yet remaining, *Buy the truth, and sell it not; and so of wisdom and knowledge.*

And lest any man should retain a scruple as if this thirst of knowledge were rather an humour of the mind than an emptiness or want in nature and an

instinct from God, the same author defineth of it fully, saying, *God hath made every thing in beauty according to season; also he hath set the world in man's heart, yet can he not find out the work which God worketh from the beginning to the end:* declaring not obscurely that God hath framed the mind of man as a glass capable of the image of the universal world, joying to receive the signature thereof as the eye is of light, yea not only satisfied in beholding the variety of things and vicissitude of times, but raised also to find out and discern those ordinances and decrees which throughout all these changes are infallibly observed. And although the highest generality of motion or summary law of nature God should still reserve within his own curtain, yet many and noble are the inferior and secondary operations which are within man's sounding. This is a thing which I cannot tell whether I may so plainly speak as truly conceive, that as all knowledge appeareth to be a plant of God's own planting, so it may seem the spreading and flourishing or at least the bearing and fructifying of this plant, by a providence of God, nay not only by a general providence but by a special prophecy, was appointed to this autumn of the world: for to my understanding it is not violent to the letter, and safe now after the event, so to interpret that place in the prophecy of Daniel where speaking of the latter times it is said, *Many shall pass to and fro, and science shall be increased;* as if the opening of the world by navigation and commerce and the further discovery of knowledge should meet in one time or age.

But howsoever that be, there are besides the authorities of Scriptures before recited, two reasons of

exceeding great weight and force why religion should dearly protect all increase of natural knowledge: the one, because it leadeth to the greater exaltation of the glory of God; for as the Psalms and other Scriptures do often invite us to consider and to magnify the great and wonderful works of God, so if we should rest only in the contemplation of those shews which first offer themselves to our senses, we should do a like injury to the majesty of God, as if we should judge of the store of some excellent jeweller by that only which is set out to the street in his shop. The other reason is, because it is a singular help and a preservative against unbelief and error; for, saith our Saviour, *You err, not knowing the Scriptures nor the power of God;* laying before us two books or volumes to study if we will be secured from error; first the Scriptures revealing the will of God, and then the creatures expressing his power; for that latter book will certify us that nothing which the first teacheth shall be thought impossible. And most sure it is, and a true conclusion of experience, that a little natural philosophy inclineth the mind to atheism, but a further proceeding bringeth the mind back to religion.

To conclude then, let no man presume to check the liberality of God's gifts, who, as was said, *hath set the world in man's heart.* So as whatsoever is not God but parcel of the world, he hath fitted it to the comprehension of man's mind, if man will open and dilate the powers of his understanding as he may.

But yet evermore it must be remembered that the least part of knowledge passed to man by this so large a charter from God must be subject to that use for which God hath granted it; which is the benefit and

relief of the state and society of man; for otherwise all manner of knowledge becometh malign and serpentine, and therefore as carrying the quality of the serpent's sting and malice it maketh the mind of man to swell; as the Scripture saith excellently, *knowledge bloweth up, but charity buildeth up.* And again the same author doth notably disavow both power and knowledge such as is not dedicated to goodness or love, for saith he, *If I have all faith so as I could remove mountains*, (there is power active,) *if I render my body to the fire*, (there is power passive,) *if I speak with the tongues of men and angels*, (there is knowledge, for language is but the conveyance of knowledge,) *all were nothing.*

And therefore it is not the pleasure of curiosity, nor the quiet of resolution, nor the raising of the spirit, nor victory of wit, nor faculty of speech, nor lucre of profession, nor ambition of honour or fame, nor inablement for business, that are the true ends of knowledge; some of these being more worthy than other, though all inferior and degenerate: but it is a restitution and reinvesting (in great part) of man to the sovereignty and power (for whensoever he shall be able to call the creatures by their true names he shall again command them) which he had in his first state of creation. And to speak plainly and clearly, it is a discovery of all operations and possibilities of operations from immortality (if it were possible) to the meanest mechanical practice. And therefore knowledge that tendeth but to satisfaction is but as a courtesan, which is for pleasure and not for fruit or generation. And knowledge that tendeth to profit or profession or glory is but as the golden ball thrown before Atalanta, which

while she goeth aside and stoopeth to take up she hindereth the race. And knowledge referred to some particular point of use is but as Harmodius which putteth down one tyrant, and not like Hercules who did perambulate the world to suppress tyrants and giants and monsters in every part.[1] It is true, that in two points the curse is peremptory and not to be removed; the one that vanity must be the end in all human effects, eternity being resumed, though the revolutions and periods may be delayed. The other that the consent of the creature being now turned into reluctation, this power cannot otherwise be exercised and administered but with labour, as well in inventing as in executing; yet nevertheless chiefly that labour and travel which is described by the sweat of the brows more than of the body; that is such travel as is joined with the working and discursion of the spirits in the brain: for as Salomon saith excellently, *The fool putteth to more strength, but the wise man considereth which way*, signifying the election of the mean to be more material than the multiplication of endeavour. It is true also that there is a limitation rather potential than actual, which is when the effect is possible, but the time or place yieldeth not the matter or basis whereupon man should work. But notwithstanding these precincts and bounds, let it be believed, and appeal thereof made to *Time*, (with renunciation nevertheless to all the vain and abusing promises of Alchemists and Magicians, and such like light, idle, ignorant, credulous, and fantastical wits and sects,) that the new-found world of land was not greater addition to the ancient continent

[1] The words "that is, man's miseries and necessities," which followed in the transcript, have a line drawn through them.

than there remaineth at this day a world of inventions and sciences unknown, having respect to those that are known, with this difference, that the ancient regions of knowledge will seem as barbarous compared with the new, as the new regions of people seem barbarous compared to many of the old.

The dignity of this end (of endowment of man's life with new commodities) appeareth by the estimation that antiquity made of such as guided thereunto. For whereas founders of states, lawgivers, extirpers of tyrants, fathers of the people, were honoured but with the titles of Worthies or Demigods, inventors were ever consecrated amongst the Gods themselves. And if the ordinary ambitions of men lead them to seek the amplification of their own power in their countries, and a better ambition than that hath moved men to seek the amplification of the power of their own countries amongst other nations, better again and more worthy must that aspiring be which seeketh the amplification of the power and kingdom of mankind over the world; the rather because the other two prosecutions are ever culpable of much perturbation and injustice; but this is a work truly divine, which cometh *in aura leni* without noise or observation.

The access also to this work hath been by that port or passage, which the divine Majesty (who is unchangeable in his ways) doth infallibly continue and observe; that is the felicity wherewith he hath blessed an humility of mind, such as rather laboureth to spell and so by degrees to read in the volumes of his creatures, than to solicit and urge and as it were to invocate a man's own spirit to divine and give oracles unto him. For as in the inquiry of divine truth, the pride

of man hath ever inclined to leave the oracles of God's word and to vanish in the mixture of their own inventions; so in the self-same manner, in inquisition of nature they have ever left the oracles of God's works, and adored the deceiving and deformed imagery which the unequal mirrors of their own minds have represented unto them. Nay it is a point fit and necessary in the front and beginning of this work without hesitation or reservation to be professed, that it is no less true in this human kingdom of knowledge than in God's kingdom of heaven, that no man shall enter into it *except he become first as a little child.*[1]

Of the impediments of knowledge, being the 4th[2] *chapter, the preface only of it.*

In some things it is more hard to attempt than to achieve, which falleth out when the difficulty is not so much in the matter or subject, as it is in the crossness and indisposition of the mind of man to think of any such thing, to will or to resolve it. And therefore Titus Livius in his declamatory digression wherein he doth depress and extenuate the honour of Alexander's conquests saith, *Nihil aliud quam bene ausus vana contemnere:* in which sort of things it is the manner of men first to wonder that any such thing should be possible, and after it is found out to wonder again how the world should miss it so long. Of this nature I take to be the invention and discovery of knowledge, &c.

[1] This chapter ends at the top of a new page. The rest is left blank.

[2] The word "third" has a line drawn through it, and 4th is written over it in Bacon's hand.

The impediments which have been in the times, and in diversion of wits, being the 5th chapter,[1] a small fragment in the beginning of that chapter.

The encounters of the times have been nothing favourable and prosperous for the invention of knowledge; so as it is not only the daintiness of the seed to take, and the ill mixture and unliking of the ground to nourish or raise this plant, but the ill season also of the weather by which it hath been checked and blasted. Especially in that the seasons have been proper to bring up and set forward other more hasty and indifferent plants, whereby this of knowledge hath been starved and overgrown; for in the descent of times always there hath been somewhat else in reign and reputation, which hath generally aliened and diverted wits and labours from that employment.

For as for the uttermost antiquity which is like fame that muffles her head and tells tales, I cannot presume much of it; for I would not willingly imitate the manner of those that describe maps, which when they come to some far countries whereof they have no knowledge, set down how there be great wastes and deserts there: so I am not apt to affirm that they knew little, because what they knew is little known to us. But if you will judge of them by the last traces that remain to us, you will conclude, though not so scornfully as Aristotle doth, that saith our ancestors were extreme gross, as those that came newly from being moulded out of the clay or some earthly substance; yet reasonably and probably thus, that it was with

[1] Originally "being the fourth chapter the beginning:" the correction all in Bacon's hand.

them in matter of knowledge but as the dawning or break of day. For at that time the world was altogether home-bred, every nation looked little beyond their own confines or territories, and the world had no through lights then, as it hath had since by commerce and navigation, whereby there could neither be that contribution of wits one to help another, nor that variety of particulars for the correcting of customary conceits.

And as there could be no great collection of wits of several parts or nations, so neither could there be any succession of wits of several times, whereby one might refine the other, in regard they had not history to any purpose. And the manner of their traditions was utterly unfit and unproper for amplification of knowledge. And again the studies of those times, you shall find, besides wars, incursions, and rapines, which were then almost every where betwixt states adjoining (the use of leagues and confederacies being not then known), were to populate by multitude of wives and generation, a thing at this day in the waster part of the West-Indies principally affected; and to build sometimes for habitation towns and cities, sometimes for fame and memory monuments, pyramids, colosses, and the like. And if there happened to rise up any more civil wits;[1] then would he found and erect some new laws, customs, and usages, such as now of late years, when the world was revolute almost to the like rudeness and obscurity, we see both in our own nation and abroad many examples of, as well in a number of tenures reserved upon men's lands, as in divers customs of towns and manors, being the devices that

[1] *witts* in MS. Probably a mistake for *witte*.

such wits wrought upon in such times of deep ignorance, &c.[1]

The impediments of knowledge for want of a true succession of wits, and that hitherto the length of one man's life hath been the greatest measure of knowledge, being the 6th chapter, the whole chapter.[2]

In arts mechanical the first device comes shortest and time addeth and perfecteth. But in sciences of conceit the first author goeth furthest and time leeseth and corrupteth. Painting, artillery, sailing, and the like, grossly managed at first, by time accommodate and refined. The philosophies and sciences of Aristotle, Plato, Democritus, Hippocrates, of most vigour at first, by time degenerated and imbased. In the former many wits and industries contributed in one: In the latter many men's wits spent to deprave the wit of one.

The error is both in the deliverer and in the receiver. He that delivereth knowledge desireth to deliver it in such form as may be soonest believed, and not as may be easiliest examined. He that receiveth knowledge desireth rather present satisfaction than expectant search, and so rather not to doubt than not to err. Glory maketh the author not to lay open his weakness, and sloth maketh the disciple not to know his strength.

Then begin men to aspire to the second prizes; to be a profound interpreter and commenter, to be a sharp champion and defender, to be a methodical com-

[1] The "&c." in Bacon's hand.

[2] Originally "the fifth chapter:" "6th" substituted, and "the whole chapter" added, in Bacon's hand.

pounder and abridger. And this is the unfortunate succession of wits which the world hath yet had, whereby the patrimony of all knowledge goeth not on husbanded or improved, but wasted and decayed. For knowledge is like a water that will never arise again higher than the level from which it fell; and therefore to go beyond Aristotle by the light of Aristotle is to think that a borrowed light can increase the original light from whom it is taken. So then no true succession of wits having been in the world, either we must conclude that knowledge is but a task for one man's life, and then vain was the complaint that *life is short, and art is long:* or else, that the knowledge that now is, is but a shrub, and not that tree which is never dangerous, but where it is to the purpose of knowing Good and Evil; which desire ever riseth upon an appetite to elect and not to obey, and so containeth in it a manifest defection.

That the pretended succession of wits hath been evil placed, forasmuch as after variety of sects and opinions, the most popular and not the truest prevaileth and weareth out the rest; being the 7th chapter; a fragment.[1]

It is sensible to think that when men enter first into search and inquiry, according to the several frames and compositions of their understanding they light upon different conceits, and so all opinions and doubts are beaten over, and then men having made a taste of all wax weary of variety, and so reject the worst and hold themselves to the best, either some one if it be eminent, or some two or three if they be in some equality, which

[1] Originally "the sixth chapter:" "7th" substituted, and "a fragment" added in Bacon's hand.

afterwards are received and carried on, and the rest extinct.

But truth is contrary, and that time is like a river which carrieth down things which are light and blown up, and sinketh and drowneth that which is sad and weighty. For howsoever governments have several forms, sometimes one governing, sometimes few, sometimes the multitude; yet the state of knowledge is ever a *Democratie*, and that prevaileth which is most agreeable to the senses and conceits of people. As for example there is no great doubt but he that did put the beginnings of things to be *solid, void, and motion to the centre*, was in better earnest than he that put *matter, form, and shift;* or he that put *the mind, motion, and matter*. For no man shall enter into inquisition of nature, but shall pass by that opinion of Democritus, whereas he shall never come near the other two opinions, but leave them aloof for the schools and table-talk. Yet those of Aristotle and Plato, because they be both agreeable to popular sense, and the one was uttered with subtilty and the spirit of contradiction, and the other with a stile of ornament and majesty, did hold out, and the other gave place, &c.[1]

Of the impediments of knowledge in handling it by parts, and in slipping off particular sciences from the root and stock of universal knowledge, being the 8th[2] *chapter*, the whole chapter.

Cicero, the orator, willing to magnify his own profession, and thereupon spending many words to main-

[1] The "&c." in Bacon's hand.

[2] Originally "seventh;" "8th" substituted, and "the whole chapter" added, in Bacon's hand.

tain that eloquence was not a shop of good words and elegancies but a treasury and receipt of all knowledges, so far forth as may appertain to the handling and moving of the minds and affections of men by speech, maketh great complaint of the school of Socrates; that whereas before his time the same professors of wisdom in Greece did pretend to teach an universal *Sapience* and knowledge both of matter and words, Socrates divorced them and withdrew philosophy and left rhetoric to itself, which by that destitution became but a barren and unnoble science. And in particular sciences we see that if men fall to subdivide their labours, as to be an oculist in physic, or to be perfect in some one title of the law, or the like, they may prove ready and subtile, but not deep or sufficient, no not in that subject which they do particularly attend, because of that consent which it hath with the rest. And it is a matter of common discourse of the chain of sciences how they are linked together, insomuch as the Grecians, who had terms at will, have fitted it of a name of *Circle Learning*. Nevertheless I that hold it for a great impediment towards the advancement and further invention of knowledge, that particular arts and sciences have been disincorporated from general knowledge, do not understand one and the same thing which Cicero's discourse and the note and conceit of the Grecians in their word *Circle Learning* do intend. For I mean not that use which one science hath of another for ornament or help in practice, as the orator hath of knowledge of affections for moving, or as military science may have use of geometry for fortifications; but I mean it directly of that use by way of supply of light and information which the particulars and instances of

one science do yield and present for the framing or correcting of the axioms of another science in their very truth and notion. And therefore that example of *oculists* and *title lawyers* doth come nearer my conceit than the other two; for sciences distinguished have a dependence upon universal knowledge to be augmented and rectified by the superior light thereof, as well as the parts and members of a science have upon the *Maxims* of the same science, and the mutual light and consent which one part receiveth of another. And therefore the opinion of Copernicus in astronomy, which astronomy itself cannot correct because it is not repugnant to any of the appearances, yet natural philosophy doth correct. On the other side if some of the ancient philosophers had been perfect in the observations of astronomy, and had called them to counsel when they made their principles and first axioms, they would never have divided their philosophy as the Cosmographers do their descriptions by globes, making one philosophy for heaven and another for under heaven, as in effect they do.

So if the moral philosophers that have spent such an infinite quantity of debate touching Good and the highest good, had cast their eye abroad upon nature and beheld the appetite that is in all things to receive and to give; the one motion affecting preservation and the other multiplication; which appetites are most evidently seen in living creatures in the pleasure of nourishment and generation; and in man do make the aptest and most natural division of all his desires, being either of sense of pleasure or sense of power; and in the universal frame of the world are figured, the one in the beams of heaven which issue forth, and the

other in the lap of the earth which takes in: and again if they had observed the motion of congruity or situation of the parts in respect of the whole, evident in so many particulars; and lastly if they had considered the motion (familiar in attraction of things) to approach to that which is higher in the same kind; when by these observations so easy and concurring in natural philosophy, they should have found out this quaternion of good, in enjoying or fruition, effecting or operation, consenting or proportion, and approach or assumption; they would have saved and abridged much of their long and wandering discourses of pleasure, virtue, duty, and religion. So likewise in this same logic and rhetoric, or arts[1] of argument and grace of speech, if the great masters of them would but have gone a form lower, and looked but into the observations of Grammar concerning the kinds of words, their derivations, deflexions, and syntax; specially enriching the same with the helps of several languages, with their differing proprieties of words, phrases, and tropes; they might have found out more and better footsteps of common reason, help of disputation, and advantages of cavillation, than many of these which they have propounded. So again a man should be thought to dally, if he did note how the figures of rhetoric and music are many of them the same. The repetitions and traductions in speech and the reports and hauntings of sounds in music are the very same things. Plutarch hath almost made a book of the Lacedæmonian kind of jesting, which joined ever pleasure with distaste. *Sir*, (saith a man of art to Philip king of Macedon when he controlled him in his faculty,) *God*

[1] *acts* in MS., I think.

forbid your fortune should be such as to know these things better than I. In taxing his ignorance in his art he represented to him the perpetual greatness of his fortune, leaving him no vacant time for so mean a skill. Now in music it is one of the ordinariest flowers to fall from a discord or hard tune upon a sweet accord. The figure that Cicero and the rest commend as one of the best points of elegancy, which is the fine checking of expectation, is no less well known to the musicians when they have a special grace in flying the close or cadence. And these are no allusions but direct communities, the same delights of the mind being to be found not only in music, rhetoric, but in moral philosophy, policy, and other knowledges, and that obscure in the one, which is more apparent in the other, yea and that discovered in the one which is not found at all in the other, and so one science greatly aiding to the invention and augmentation of another. And therefore without this intercourse the axioms of sciences will fall out to be neither full nor true; but will be such opinions as Aristotle in some places doth wisely censure, when he saith *These are the opinions of persons that have respect but to a few things.* So then we see that this note leadeth us to an administration of knowledge in some such order and policy as the king of Spain in regard of his great dominions useth in state; who though he hath particular councils for several countries and affairs, yet hath one council of State or last resort, that receiveth the advertisements and certificates from all the rest. Hitherto of the diversion, succession, and conference of wits.

That the end and scope of knowledge hath been generally mistaken, and that men were never well advised what

it was they sought; being the 9th chapter, whereof a fragment (which is the end of the same chapter) is before.[1]

It appeareth then how rarely the wits and labours of men have been converted to the severe and original inquisition of knowledge; and in those who have pretended, what hurt hath been done by the affectation of professors and the distraction of such as were no professors;[2] and how there was never in effect any conjunction or combination of wits in the first and inducing search, but that every man wrought apart, and would either have his own way or else would go no further than his guide, having in the one case the honour of a first, and in the other the ease of a second; and lastly how in the descent and continuance of wits and labours the succession hath been in the most popular and weak opinions, like unto the weakest natures which many times have most children, and in them also the condition of succession hath been rather to defend and to adorn than to add; and if to add, yet that addition to be rather a refining of a part than an increase of the whole. But the impediments of time and accidents, though they have wrought a general indisposition, yet are they not so peremptory and binding as the internal impediments and clouds in the mind and spirit of man, whereof it now followeth to speak.

The Scripture speaking of the worst sort of error saith, *Errare fecit eos in invio et non in via.* For a

[1] See p. 49. note 2.; and compare Table of Contents (p. 25.) No. 8.
The number of this chapter was not stated in the transcript as it originally stood: the words in Roman characters are all added in Bacon's hand, at the end of the title: nothing is struck out.

[2] This clause is repeated in the margin and marked for insertion in its proper place.

man may wander in the way, by rounding up and down. But if men have failed in their very direction and address that error will never by good fortune correct itself. Now it hath fared with men in their contemplations as Seneca saith it fareth with them in their actions, *De partibus vitæ quisque deliberat, de summa nemo.* A course very ordinary with men who receive for the most part their final ends from the inclination of their nature, or from common example and opinion, never questioning or examining them, nor reducing them to any clear certainty; and use only to call themselves to account and deliberation touching the means and second ends, and thereby set themselves in the right way to the wrong place. So likewise upon the natural curiosity and desire to know, they have put themselves in way without foresight or consideration of their journey's end.

For I find that even those that have sought knowledge for itself, and not for benefit or ostentation or any practical enablement in the course of their life, have nevertheless propounded to themselves a wrong mark, namely satisfaction (which men call truth) and not operation. For as in the courts and services of princes and states it is a much easier matter to give satisfaction than to do the business; so in the inquiring of causes and reasons it is much easier to find out such causes as will satisfy the mind of man and quiet objections, than such causes as will direct him and give him light to new experiences and inventions. And this did Celsus note wisely and truly, how that the causes which are in use and whereof the knowledges now received do consist, were in time minors and subsequents to the knowledge of the particulars out of which they were

induced and collected; and that it was not the light of those causes which discovered particulars, but only the particulars being first found, men did fall on glossing and discoursing of the causes; which is the reason why the learning that now is hath the curse of barrenness, and is courtesan-like, for pleasure, and not for fruit.[1] Nay to compare it rightly, the strange fiction of the poets of the transformation of Scylla seemeth to be a lively emblem of this philosophy and knowledge; a fair woman upwards in the parts of show, but when you come to the parts of use and generation, Barking Monsters; for no better are the endless distorted questions, which ever have been, and of necessity must be, the end and womb of such knowledge.

But yet nevertheless[2] here I may be mistaken, by reason of some which have much in their pen the referring sciences to action and the use of man, which mean quite another matter than I do. For they mean a contriving of directions and precepts for readiness of practice, which I discommend not, so it be not occasion that some quantity of the science be lost; for else it will be such a piece of husbandry as to put away a manor lying somewhat scattered, to buy in a close that lieth handsomely about a dwelling. But my intention contrariwise is to increase and multiply the revenues and possessions of man, and not to trim up only or order with conveniency the grounds whereof he is already stated. Wherefore the better to make myself understood that I mean nothing less than words, and

[1] Here in the transcript the chapter ended. The next sentence is written in the margin in Bacon's own hand.

[2] This paragraph, which stands as the third fragment in the order of the transcript, is headed in the transcriber's hand, "*A part of the 9th chapter immediately precedent to the Inventory and inducing the same.*"

directly to demonstrate the point which we are now upon, that is, what is the true end, scope, or office of knowledge, which I have set down to consist not in any plausible, delectable, reverend, or admired discourse, or any satisfactory arguments, but in effecting and working, and in discovery of particulars not revealed before for the better endowment and help of man's life; I have thought good to make as it were a Kalendar or Inventory of the wealth, furniture, or means of man according to his present estate, as far as it is known; which I do not to shew any universality of sense or knowledge, and much less to make a satire of reprehension in respect of wants and errors, but partly because cogitations new had need of some grossness and inculcation to make them perceived; and chiefly to the end that for the time to come (upon the account and state now made and cast up) it may appear what increase this new manner of use and administration of the stock (if it be once planted) shall bring with it hereafter; and for the time present (in case I should be prevented by death to propound and reveal this new light[1] as I purpose) yet I may at the least give some awaking note both of the wants in man's present condition and the nature of the supplies to be wished; though for mine own part neither do I much build upon my present *anticipations*, neither do I think ourselves yet learned or wise enough to wish reasonably: for as it asks some knowledge to demand a question not impertinent, so it asketh some sense to make a wish not absurd.[2]

1 *direction* had been written first.

2 The chapter ends before the bottom of the page; leaving about a fifth of it blank.

The Inventory, or an enumeration and view of inventions already discovered and in use, together with a note of the wants and the nature of the supplies, being the 10th chapter; and this a small fragment thereof, being the preface to the Inventory.[1]

The plainest method and most directly pertinent to this intention, will be to make distribution of sciences, arts, inventions, works, and their portions, according to the use and tribute which they yield and render to the conditions of man's life, and under those several uses, being as several offices of provisions, to charge and tax what may be reasonably exacted or demanded; not guiding ourselves neither by the poverty of experiences and probations, nor according to the vanity of credulous imaginations; and then upon those charges and taxations to distinguish and present, as it were in several columns, what is extant and already found, and what is defective and further to be provided. Of which provisions, because in many of them after the manner of slothful and faulty officers and accomptants it will be returned (by way of excuse) that no such are to be had, it will be fit to give some light of the nature of the supplies, whereby it will evidently appear that they are to be compassed and procured.[2] And yet nevertheless on the other side again it will be as fit to check and control the vain and void assignations and gifts whereby certain ignorant, extravagant, and abusing wits have pretended to indue the

[1] The words *fragment only of the same*, with which the original heading ended, have a line drawn through them, and the words in Roman character are added in Bacon's hand.

[2] The concluding sentence, which is crowded into the page and overflows into the margin, has evidently been inserted subsequently to the original transcript. After "procured" there seems to be an "&c."

state of man with wonders, differing as much from truth in nature as Cæsar's Commentaries differeth from the acts of King Arthur or Huon of Bourdeaux in story. For it is true that Cæsar did greater things than those idle wits had the audacity to feign their supposed worthies to have done; but he did them not in that monstrous and fabulous manner.

The chapter immediately following the Inventory; being the 11*th in order;* a part thereof.[1]

It appeareth then what is now in proposition not by general circumlocution but by particular note. No former philosophy varied in terms or method; no new *placet* or speculation upon particulars already known; no referring to action by any manual of practice; but the revealing and discovering of new inventions and operations. This to be done without the errors and conjectures of art, or the length or difficulties of experience; the nature and kinds of which inventions have been described as they could be discovered; for your eye cannot pass one kenning without further sailing; only we have stood upon the best advantages of the notions received, as upon a mount, to shew the knowledges adjacent and confining. If therefore the true end of knowledge not propounded hath bred large error, the best and perfectest condition of the same end not perceived will cause some declination. For when the butt is set up men need not rove, but except the white be placed men cannot level. This perfection we mean not in the worth of the effect, but in the nature of the direction; for our purpose is not to stir up men's hopes, but to guide their travels. The fulness of di-

[1] The words in Roman letters are inserted in Bacon's hand.

rection to work and produce any effect consisteth in two conditions, certainty and liberty. Certainty is when the direction is not only true for the most part, but infallible. Liberty is when the direction is not restrained to some definite means, but comprehendeth all the means and ways possible; for the poet saith well *Sapientibus undique latæ sunt viæ*, and where there is the greatest plurality of change, there is the greatest singularity of choice. Besides as a conjectural direction maketh a casual effect, so a particular and restrained direction is no less casual than an uncertain. For those particular means whereunto it is tied may be out of your power or may be accompanied with an overvalue of prejudice; and so if for want of certainty in direction you are frustrated in success, for want of variety in direction you are stopped in attempt. If therefore your direction be certain, it must refer you and point you to somewhat which, if it be present, the effect you seek will of necessity follow, else may you perform and not obtain. If it be free, then must it refer you to somewhat which if it be absent the effect you seek will of necessity withdraw, else may you have power and not attempt. This notion Aristotle had in light, though not in use. For the two commended rules by him set down, whereby the *axioms* of sciences are precepted to be made convertible, and which the latter men have not without elegancy surnamed the one the rule of truth because it preventeth deceit, the other the rule of prudence because it freeth election, are the same thing in speculation and affirmation which we now observe. An example will make my meaning attained, and yet percase make it thought that they attained it not. Let the effect to be produced be

Whiteness; let the first direction be that if air and water be intermingled or broken in small portions together, whiteness will ensue, as in snow, in the breaking of the waves of the sea and rivers, and the like. This direction is certain, but very particular and restrained, being tied but to air and water. Let the second direction be, that if air be mingled as before with any transparent body, such nevertheless as is uncoloured and more grossly transparent than air itself, that then &c. as glass or crystal, being beaten to fine powder, by the interposition of the air becometh white; the white of an egg being clear of itself, receiving air by agitation becometh white, receiving air by concoction becometh white; here you are freed from water, and advanced to a clear body, and still tied to air. Let the third direction exclude or remove the restraint of an uncoloured body, as in amber, sapphires, &c. which beaten to fine powder become white; in wine and beer, which brought to froth become white. Let the fourth direction exclude the restraint of a body more grossly transparent than air, as in flame, being a body compounded between air and a finer substance than air; which flame if it were not for the smoke, which is the third substance that incorporateth itself and dyeth the flame, would be more perfect white. In all these four directions air still beareth a part. Let the fifth direction then be, that if any bodies, both transparent but in an unequal degree, be mingled as before, whiteness will follow; as oil and water beaten to an ointment, though by settling the air which gathereth in the agitation be evaporate, yet remaineth white; and the powder of glass or crystal put into water, whereby the air giveth place, yet remaineth

white, though not so perfect. Now are you freed from air, but still you are tied to transparent bodies. To ascend further by scale I do forbear, partly because it would draw on the example to an over-great length, but chiefly because it would open that which in this work I determine to reserve; for to pass through the whole history and observation of colours and objects visible were too long a digression; and our purpose is now to give an example of a free direction, thereby to distinguish and describe it; and not to set down a form of interpretation how to recover and attain it. But as we intend not now to reveal, so we are circumspect not to mislead; and therefore (this warning being given) returning to our purpose in hand, we admit the sixth direction to be, that all bodies or parts of bodies which are unequal equally, that is in a simple proportion, do represent whiteness;[1] we will explain this, though we induce it not. It is then to be understood, that absolute equality produceth transparence, inequality in simple order or proportion produceth whiteness, inequality in compound or respective order or proportion produceth all other colours, and absolute or orderless inequality produceth blackness; which diversity, if so gross a demonstration be needful, may be signified by four tables; a blank, a chequer, a fret, and a medley; whereof the fret is evident to admit great variety. Out of this assertion are satisfied a multitude of effects and observations, as that whiteness and blackness are

[1] Compare *De Aug.* iii. 4. Vol. II. p. 290. "At in Metaphysicâ, si fiat inquisitio, hujusmodi quidpiam reperies; Corpora duo Diaphana intermixta, Portionibus eorum Opticis simplici ordine sive æqualiter collocatis, constituere Albedinem." And observe that this sentence is not to be found in the corresponding passage of the *Advancement of Learning*, but is interpolated in the translation.

most incompatible with transparence; that whiteness keepeth light, and blackness stoppeth light, but neither passeth it; that whiteness or blackness are never produced in rainbows, diamonds, crystals, and the like; that white giveth no dye, and black hardly taketh dye; that whiteness seemeth to have an affinity with dryness, and blackness with moisture; that adustion causeth blackness, and calcination whiteness; that flowers are generally of fresh colours, and rarely black, &c. All which I do now mention confusedly by way of derivation and not by way of induction. This sixth direction, which I have thus explained, is of good and competent liberty for whiteness fixed and inherent, but not for whiteness fantastical or appearing, as shall be afterwards touched. But first do you need a reduction back to certainty or verity; for it is not all position or contexture of unequal bodies that will produce colour; for *aqua fortis*, oil of *vitriol*, &c. more manifestly, and many other substances more obscurely, do consist of very unequal parts, which yet are transparent and clear. Therefore the reduction must be, that the bodies or parts of bodies so intermingled as before be of a certain grossness or magnitude; for the unequalities which move the sight must have a further dimension and quantity than those which operate many other effects. Some few grains of saffron will give a tincture to a tun of water; but so many grains of civet will give a perfume to a whole chamber of air. And therefore when Democritus (from whom Epicurus did borrow it) held that the position of the solid portions was the cause of colours, yet in the very truth of his assertion he should have added, that the portions are required to be of some magnitude. And this is one

cause why colours have little inwardness and necessitude with the nature and proprieties of things, those things resembling in colour which otherwise differ most, as salt and sugar, and contrariwise differing in colour which otherwise resemble most, as the white and blue violets, and the several veins of one agate or marble, by reason that other virtues consist in more subtile proportions than colours do; and yet are there virtues and natures which require a grosser magnitude than colours, as well as scents and divers other require a more subtile; for as the portion of a body will give forth scent which is too small to be seen, so the portion of a body will shew colours which is too small to be endued with weight; and therefore one of the prophets with great elegancy describing how all creatures carry no proportion towards God the creator, saith, *That all the nations in respect of him are like the dust upon the balance*, which is a thing appeareth but weigheth not. But to return, there resteth a further freeing of this sixth direction; for the clearness of a river or stream sheweth white at a distance, and crystalline glasses deliver the face or any other object falsified in whiteness, and long beholding the snow to a weak eye giveth an impression of azure rather than of whiteness. So as for whiteness in apparition only and representation by the qualifying of the light, altering the *intermedium*, or affecting the eye itself, it reacheth not. But you must free your direction to the producing of such an incidence, impression, or operation, as may cause a precise and determinate passion of the eye; a matter which is much more easy to induce than that which we have passed through; but yet because it hath a full coherence both with that act of radiation (which hath hith-

erto been conceived and termed so unproperly and untruly by some an effluxion of spiritual species and by others an investing of the *intermedium* with a motion which successively is conveyed to the eye) and with the act of sense, wherein I should likewise open that which I think good to withdraw, I will omit. Neither do I contend but that this motion which I call the freeing of a direction, in the received philosophies (as far as a swimming anticipation could take hold) might be perceived and discerned; being not much other matter than that which they did not only aim at in the two rules of *Axioms* before remembered, but more nearly also in[1] that which they term the form or formal cause, or that which they call the true difference; both which nevertheless it seemeth they propound rather as impossibilities and wishes than as things within the compass of human comprehension. For Plato casteth his burden and saith *that he will revere him as a God, that can truly divide and define;*[2] which cannot be but by true forms and differences. Wherein I join hands with him, confessing as much as yet assuming to myself little; for if any man can by the strength of his *anticipations* find out forms, I will magnify him with the foremost. But as any of them would say that if divers things which many men know by instruction and observation another knew by revelation and without those means, they would take him for somewhat supernatural and divine; so I do acknowledge that if any man can by anticipations reach to that which a weak and inferior wit may attain to by interpretation, he cannot receive too high a title. Nay I for my part do indeed admire to see how far some of

[1] *than* in MS. [2] See *Nov. Org.* ii. 26. Vol. I. p. 413.

them have proceeded by their *anticipations;* but how? it is as I wonder at some blind men, to see what shift they make without their eye-sight; thinking with myself that if I were blind I could hardly do it. Again Aristotle's school confesseth that there is no true knowledge but by causes, no true cause but the form, no true form known except one, which they are pleased to allow; and therefore thus far their evidence standeth with us, that both hitherto there hath been nothing but a shadow of knowledge, and that we propound now that which is agreed to be worthiest to be sought, and hardest to be found. There wanteth now a part very necessary, not by way of supply but by way of caution; for as it is seen for the most part that the outward tokens and badges of excellency and perfection are more incident to things merely counterfeit than to that which is true, but for[1] a meaner and baser sort; as a dubline is more like a perfect ruby than a spinel, and a counterfeit angel is made more like a true angel than if it were an angel coined of China gold; in like manner the direction carrieth a resemblance of a true direction in verity and liberty which indeed is no direction at all. For though your direction seem to be certain and free by pointing you to a nature that is unseparable from the nature you inquire upon, yet if it do not carry you on a degree or remove nearer to action, operation, or light to make or produce, it is but superficial and counterfeit. Wherefore to secure and warrant what is a true direction, though that general note I have given be perspicuous in itself (for a man shall soon cast with himself whether he be ever the nearer[2] to effect and operate or no, or whether he have

[1] So MS. qu. *of*?

[2] *neare* MS.

won but an abstract or varied notion) yet for better instruction I will deliver three particular notes of caution. The first is that the nature discovered be more original than the nature supposed, and not more secondary or of the like degree; as to make a stone bright or to make it smooth it is a good direction to say, make it even; but to make a stone even it is no good direction to say, make it bright or make it smooth; for the rule is that the disposition of any thing referring to the state of it in itself or the parts, is more original than that which is relative or transitive towards another thing. So evenness is the disposition of the stone in itself, but smooth is to the hand and bright to the eye, and yet nevertheless they all cluster and concur; and yet the direction is more unperfect, if it do appoint you to such a relative as is in the same kind and not in a diverse. For in the direction to produce brightness by smoothness, although properly it win no degree, and will never teach you any new particulars before unknown; yet by way of suggestion or bringing to mind it may draw your consideration to some particulars known but not remembered; as you shall sooner remember some practical means of making smoothness, than if you had fixed your consideration only upon brightness; but if the direction had been to make brightness by making reflexion, as thus, make it such as you may see your face in it, this is merely secondary, and helpeth neither by way of informing nor by way of suggestion. So if in the inquiry of whiteness you were directed to make such a colour as should be seen furthest in a dark light; here you are advanced nothing at all. For these kinds of natures are but proprieties, effects, cir-

cumstances, concurrences, or what else you shall like to call them, and not radical and formative natures towards the nature supposed. The second caution is that the nature inquired be collected by division before composition, or to speak more properly, by composition subaltern before you ascend to composition absolute, &c.[1]

Of the internal and profound errors and superstitions in the nature of the mind, and of the four sorts of idols or fictions which offer themselves to the understanding in the inquisition of knowledge; being the 16th chapter, and this a small fragment thereof, being a preface to the inward elenches of the mind.[2]

The opinion of Epicurus that the gods were of human shape, was rather justly derided than seriously confuted by the other sects, demanding whether every kind of sensible creatures did not think their own figure fairest, as the horse, the bull, and the like, which found no beauty but in their own forms, as in appetite of lust appeared. And the heresy of the Anthropomorphites was ever censured for a gross conceit bred in the obscure cells of solitary monks that never looked abroad. Again the fable so well known of *Quis pinxit leonem*, doth set forth well that there is an error of pride and partiality, as well as of custom and familiarity. The reflexion also from glasses so usually resembled to the imagery of the mind, every man knoweth to receive error and variety both in colour, magnitude, and shape, according to the quality of the glass. But yet no use hath been made of these

[1] The word "subaltern" (for which a blank was left by the transcriber) and the "&c." have been inserted by Bacon. The chapter ends nearly at the bottom of the page.

[2] The words in Roman character have been added by Bacon.

and many the like observations, to move men to search out and upon search to give true cautions of the native and inherent errors in the mind of man which have coloured and corrupted all his notions and impressions.

I do find therefore in this enchanted glass four Idols or false appearances of several and distinct sorts, every sort comprehending many subdivisions: the first sort, I call idols of the *Nation* or *Tribe;* the second, idols of the *Palace;* the third, idols of the *Cave;* and the fourth, idols of the *Theatre*, &c.[1]

Here followeth an abridgment of divers chapters of the first book of Interpretation of Nature.[2]

Cap. 12.

That in deciding and determining of the truth of knowledge, men have put themselves upon trials not competent. That antiquity and authority; common and confessed notions; the natural and yielding consent of the mind; the harmony and coherence of a knowledge in itself; the establishing of principles with the touch and reduction of other propositions unto them; inductions without instances contradictory; and the report of the senses; are none of them absolute and infallible evidence of truth, and bring no security sufficient for effects and operations. That the discovery of new works and active directions not known before, is the only trial to be accepted of; and yet not that neither, in case where one particular giveth light

[1] The "&c." in Bacon's hand. The chapter ends in the middle of the second page, and the heading of the next (which is the 4th), follows immediately; whence I infer that the whole formed part of the original transcript.

[2] The words "Interpretation of Nature" added in Bacon's hand.

to another; but where particulars induce an axiom or observation, which axiom found out discovereth and designeth new particulars. That the nature of this trial is not only upon the point, whether the knowledge be profitable or no, but even upon the point whether the knowledge be true or no; not because you may always conclude that the Axiom which discovereth new instances is true, but contrariwise you may safely conclude that if it discover not any new instance it is in vain and untrue. That by new instances are not always to be understood new recipes but new assignations, and of the diversity between these two. That the subtilty of words, arguments, notions, yea of the senses themselves, is but rude and gross in comparison of the subtilty of things; and of the slothful and flattering opinions of those which pretend to honour the mind of man in withdrawing and abstracting it from particulars, and of the inducements and motives whereupon such opinions have been conceived and received.

Cap. 13.

Of the error in propounding chiefly the search of causes and productions of things concrete, which are infinite and transitory, and not of abstract natures, which are few and permanent. That these natures are as the alphabet or simple letters, whereof the variety of things consisteth; or as the colours mingled in the painter's shell, wherewith he is able to make infinite variety of faces or shapes.[1] An enumeration of them according to popular note. That at the first one would conceive that in the schools by natural

[1] This last illustration is added in the margin in Bacon's hand.

philosophy were meant the knowledge of the efficients of things concrete; and by metaphysic the knowledge of the forms of nature simple; which is a good and fit division of knowledge: but upon examination there is no such matter by them intended. That the little inquiry into the production of simple natures sheweth well that works were not sought; because by the former knowledge some small and superficial deflexions from the ordinary generations and productions may be found out, but the discovery of all profound and radical alteration must arise out of the latter knowledge.

Cap. 14.

Of the error in propounding the search of the materials or dead beginnings or principles of things, and not the nature of motions, inclinations, and applications. That the whole scope of the former search is impertinent and vain; both because there are no such beginnings, and if there were they could not be known. That the latter manner of search (which is all) they pass over compendiously and slightly as a by-matter. That the several conceits in that kind, as that the lively and moving beginnings of things should be shift or appetite of matter to privation; the spirit of the world working in matter according to platform; the preceeding or fructifying of distinct kinds according to their proprieties; the intercourse of the elements by mediation of their common qualities; the appetite of like portions to unite themselves; amity and discord, or sympathy and antipathy; motion to the centre, with motion of stripe or press; the casual agitation, aggregation, and essays of the solid portions in the void space; motion of shuttings and openings;

are all mere nugations; and that the calculating and ordination of the true degrees, moments, limits, and laws of motions and alterations (by means whereof all works and effects are produced), is a matter of a far other nature than to consist in such easy and wild generalities.

Cap. 15.

Of the great error of inquiring knowledge in Anticipations. That I call Anticipations the voluntary collections that the mind maketh of knowledge; which is every man's reason. That though this be a solemn thing, and serves the turn to negotiate between man and man (because of the conformity and participation of men's minds in the like errors), yet towards inquiry of the truth of things and works it is of no value. That civil respects are a lett that this pretended reason should not be so contemptibly spoken of as were fit and medicinable, in regard that[1] hath been too much exalted and glorified, to the infinite detriment of man's estate. Of the nature of words and their facility and aptness to cover and grace the defects of Anticipations. That it is no marvel if these Anticipations have brought forth such diversity and repugnance in opinions, theories, or philosophies, as so many fables[2] of several arguments. That had not the nature of civil customs and government been in most times somewhat adverse to such innovations, though contemplative, there might have been and would have been many more. That the second school of the Academics and the sect of Pyrrho, or the considerers that denied

[1] So MS. by mistake probably for *it*; the transcriber taking *yt* for *yt*.
[2] *fable* in MS.

comprehension, as to the disabling of man's knowledge (entertained in Anticipations) is well to be allowed, but that they ought when they had overthrown and purged the floor of the ruins to have sought to build better in place. And more especially that they did unjustly and prejudicially to charge the deceit upon the report of the senses, which admitteth very sparing remedy; being indeed to have been charged upon the Anticipations of the mind, which admitteth a perfect remedy. That the information of the senses is sufficient, not because they err not, but because the use of the sense in discovering of knowledge is for the most part not immediate. So that it is the work, effect, or instance, that trieth the Axiom, and the sense doth but try the work done or not done, being or not being. That the mind of man in collecting knowledge needeth great variety of helps, as well as the hand of man in manual and mechanical practices needeth great variety of instruments. And that it were a poor work that if instruments were removed men would overcome with their naked hands. And of the distinct points of want and insufficiency in the mind of man.

Cap. 16.

That the mind of a man, as it is not a vessel of that content or receipt to comprehend knowledge without helps and supplies, so again it is not sincere, but of an ill and corrupt tincture. Of the inherent and profound errors and superstitions in the nature of the mind, and of the four sorts of Idols or false appearances that offer themselves to the understanding in the inquisition of knowledge; that is to say, the Idols of the Tribe, the Idols of the Palace, the Idols of the

Cave, and the Idols of the Theatre. That these four, added to the incapacity of the mind and the vanity and malignity of the affections, leave nothing but impotency and confusion. A recital of the particular kinds of these four Idols, with some chosen examples of the opinions they have begot, such of them as have supplanted the state of knowledge most.

Cap. 17.

Of the errors of such as have descended and applied themselves to experience, and attempted to induce knowledge upon particulars. That they have not had the resolution and strength of mind to free themselves wholly from Anticipations, but have made a confusion and intermixture of Anticipations and observations, and so vanished. That if any have had the strength of mind generally to purge away and discharge all Anticipations, they have not had that greater and double strength and patience of mind, as well to repel new Anticipations after the view and search of particulars, as to reject old which were in their mind before; but have from particulars and history flown up to principles without the mean degrees, and so framed all the middle generalities or axioms, not by way of scale or ascension from particulars, but by way of derivation from principles; whence hath issued the infinite chaos of shadows and notions,[1] wherewith both books and minds have[2] been hitherto, and may be yet hereafter much more pestered. That in the course of those derivations, to make them yet the more unprofitable,

[1] This word is written between the lines in Bacon's hand, and I am not sure that I read it right. Stephens read it *moths*, which is certainly wrong. It is more like *nocens* than any word I can think of.

[2] *hath* in MS.

they have used when any light of new instance opposite to any assertion appeared, rather to reconcile the instance than to amend the rule. That if any have had or shall have the power and resolution to fortify and inclose his mind against all Anticipations, yet if he have not been or shall not be cautioned by the full understanding of the nature of the mind and spirit of man, and therein of the seats pores and passages both of knowledge and error, he hath not been nor shall not be possibly able to guide or keep on his course aright. That those that have been conversant in experience and observation have used, when they have intended to discover the cause of any effect, to fix their consideration narrowly and exactly upon that effect itself with all the circumstances thereof, and to vary the trial thereof as many ways as can be devised; which course amounteth but to a tedious curiosity, and ever breaketh off in wondering and not in knowing; and that they have not used to enlarge their observation to match and sort that effect with instances of a diverse subject, which[1] must of necessity be before any cause be found out. That they have passed over the observation of instances vulgar and ignoble, and stayed their attention chiefly upon instances of mark; whereas the other sort are for the most part more significant and of better light and information. That every particular that worketh any effect is a thing compounded (more or less) of diverse single natures, (more manifest and more obscure,) and that it appeareth not to whether of the natures the effect is to be ascribed, and yet notwithstanding they have taken a course without

[1] The words "according to their own rules" follow in the MS., but a line is drawn through them.

breaking particulars and reducing them by exclusions and inclusions to a definite point, to conclude upon inductions in gross, which empirical course is no less vain than the scholastical. That all such as have sought action and work out of their inquiry have been hasty and pressing to discover some practices for present use, and not to discover Axioms, joining with them the new assignations as their sureties. That the forerunning of the mind to frame recipes upon Axioms at the entrance, is like Atalanta's golden ball that hindereth and interrupteth the course, and is to be inhibited till you have ascended to a certain stage and degree of generalities; which forbearance will be liberally recompensed in the end; and that chance discovereth new inventions by one and one, but science by knots and clusters. That they have not collected sufficient quantity of particulars, nor them in sufficient certainty and subtilty, nor of all several kinds, nor with those advantages and discretions in the entry and sorting which are requisite; and of the weak manner of collecting natural history which hath been used. Lastly that they had no knowledge of the formulary of interpretation, the work whereof is to abridge experience and to make things as certainly found out by Axiom in short time, as by infinite experiences in ages.

Cap. 18.

That the cautels and devices put in practice in the delivery of knowledge for the covering and palliating of ignorance, and the gracing and overvaluing of that they utter, are without number; but none more bold and more hurtful than two; the one that men have used of a few observations upon any subject to make a

solemn and formal art, by filling it up with discourse, accommodating it with some circumstances and directions to practice, and digesting it into method, whereby men grow satisfied and secure, as if no more inquiry were to be made of that matter; the other, that men have used to discharge ignorance with credit, in defining all those effects which they cannot attain unto to be out of the compass of art and human endeavour. That the very styles and forms of utterance are so many characters of imposture, some choosing a style of pugnacity and contention, some of satire and reprehension, some of plausible and tempting similitudes and examples, some of great words and high discourse, some of short and dark sentences, some of exactness of method, all of positive affirmation, without disclosing the true motives and proofs of their opinions, or free confessing their ignorance or doubts, except it be now and then for a grace, and in cunning to win the more credit in the rest, and not in good faith. That although men be free from these errors and incumbrances in the will and affection, yet it is not a thing so easy as is conceived to convey the conceit of one man's mind into the mind of another without loss or mistaking, specially in notions new and differing from those that are received. That never any knowledge was delivered in the same order it was invented, no not in the mathematic, though it should seem otherwise in regard that the propositions placed last do use the propositions or grants placed first for their proof and demonstration. That there are forms and methods of tradition wholly distinct and differing, according to their ends whereto they are directed. That there are two ends of tradition of knowledge, the one to teach

and instruct for use and practice, the other to impart or intimate for re-examination and progression. That the former of these ends requireth a method not the same whereby it was invented and induced, but such as is most compendious and ready whereby it may be used and applied. That the latter of the ends, which is where a knowledge is delivered to be continued and spun on by a succession of labours, requireth a method whereby it may be transposed to another in the same manner as it was collected, to the end it may be discerned both where the work is weak, and where it breaketh off. That this latter method is not only unfit for the former end, but also impossible for all knowledge gathered and insinuated by Anticipations, because the mind working inwardly of itself, no man can give a just account how he came to that knowledge which he hath received, and that therefore this method is peculiar for knowledge gathered by interpretation. That the discretion anciently observed, though by the precedent of many vain persons and deceivers disgraced, of publishing part, and reserving part to a private succession, and of publishing in a manner whereby it shall not be to the capacity nor taste of all, but shall as it were single and adopt his reader, is not to be laid aside, both for the avoiding of abuse in the excluded, and the strengthening of affection in the admitted. That there are other virtues of tradition, as that there be no occasion given to error, and that it carry a vigour to root and spread against the vanity of wits and injuries of time; all which if they were ever due to any knowledge delivered, or if they were never due to any human knowledge heretofore delivered, yet are now due to the knowledge propounded.

Cap. 19.

Of the impediments which have been in the affections, the principle whereof hath been despair or diffidence, and the strong apprehension of the difficulty, obscurity, and infiniteness which belongeth to the invention of knowledge, and that men have not known their own strength, and that the supposed difficulties and vastness of the work is rather in shew and muster than in state or substance where the true way is taken. That this diffidence hath moved and caused some never to enter into search, and others when they have been entered either to give over or to seek a more compendious course than can stand with the nature of true search. That of those that have refused and prejudged inquiry, the more sober and grave sort of wits have depended upon authors and traditions, and the more vain and credulous resorted to revelation and intelligence with spirits and higher natures. That of those that have entered into search, some having fallen upon some conceits which they after consider to be the same which they have found in former authors, have suddenly taken a persuasion that a man shall but with much labour incur and light upon the same inventions which he might with ease receive from others; and that it is but a vanity and self-pleasing of the wit to go about again, as one that would rather have a flower of his own gathering, than much better gathered to his hand. That the same humour of sloth and diffidence suggesteth that a man shall but revive some ancient opinion, which was long ago propounded, examined, and rejected. And that it is easy to err in conceit that a man's observation or notion is the same with a former opinion,

both because new conceits must of necessity be uttered in old words, and because[1] upon true and erroneous grounds men may meet in consequence or conclusion, as several lines or circles that cut in some one point. That the greatest part of those that have descended into search have chosen for the most artificial and compendious course to induce principles out of particulars, and to reduce all other propositions unto principles; and so instead of the nearest way, have been led to no way or a mere labyrinth. That the two contemplative ways have some resemblance with the old parable of the two moral ways, the one beginning with incertainty and difficulty, and ending in plainness and certainty, and the other beginning with shew of plainness and certainty, and ending in difficulty and incertainty. Of the great and manifest error and untrue conceit or estimation of the infiniteness of particulars, whereas indeed all prolixity is in discourse and derivations; and of the infinite and most laborious expence of wit that hath been employed upon toys and matters of no fruit or value. That although the period of one age cannot advance men to the furthest point of interpretation of nature, (except the work should be undertaken with greater helps than can be expected), yet it cannot fail in much less space of time to make return of many singular commodities towards the state and occasions of man's life. That there is less reason of distrust in the course of interpretation now propounded than in any knowledge formerly delivered, because this course doth in sort equal men's wits, and leaveth no great advantage or preëminence to the perfect and excellent

[1] A parenthesis "(as the Schools well know)" which follows here, has a line drawn through it.

motions of the spirit. That to draw a straight line or to make a circle perfect round by aim of hand only, there must be a great difference between an unsteady and unpractised hand and a steady and practised, but to do it by rule or compass it is much alike.

Cap. 21.

Of the impediments which have been in the two extreme humours of admiration of antiquity and love of novelty, and again of over-servile reverence or over-light scorn of the opinions of others.

Cap. 22.

Of the impediments which have been in the affection of pride, specially of one kind, which is the disdain of dwelling and being conversant much in experiences and particulars, specially such as are vulgar in occurrency, and base and ignoble in use. That besides certain higher mysteries of pride, generalities seem to have a dignity and solemnity, in that they do not put men in mind of their familiar actions, in that they have less affinity with arts mechanical and illiberal, in that they are not so subject to be controuled by persons of mean observation, in that they seem to teach men that they know not, and not to refer them to that they know. All which conditions directly feeding the humour of pride, particulars do want. That the majesty of generalities, and the divine nature of the mind in taking them (if they be truly collected, and be indeed the direct reflexions of things,) cannot be too much magnified. And that it is true that interpretation is the very natural and direct intention, action, and progression of the understanding delivered from impedi-

ments. And that all Anticipation is but a deflexion or declination by accident.

Cap. 25.

Of the impediments which have been in the state of heathen religion and other superstitions and errors of religion. And that in the true religion there hath not[1] nor is any impediment, except it be by accident or intermixture of humour. That a religion which consisteth in rites and forms of adoration, and not in confessions and beliefs, is adverse to knowledge; because men having liberty to inquire and discourse of Theology at pleasure, it cometh to pass that all inquisition of nature endeth and limiteth itself in such metaphysical or theological discourse; whereas if men's wits be shut out of that port, it turneth them again to discover, and so to seek reason of reason more deeply. And that such was the religion of the Heathen. That a religion that is jealous of the variety of learning, discourse, opinions, and sects, (as misdoubting it may shake the foundations,) or that cherisheth devotion upon simplicity and ignorance, as ascribing ordinary effects to the immediate working of God, is adverse to knowledge. That such is the religion of the Turk, and such hath been the abuse of Christian religion at some several times, and in some several factions. And of the singular advantage which the Christian religion hath towards the furtherance of true knowledge, in that it excludeth and interdicteth human reason, whether by interpretation or anticipation, from examining or discussing of the mysteries and principles of faith.

[1] So MS.

Cap. 26.

Of the impediments which have been in the nature of society and the policies of state. That there is no composition of estate or society, nor order or quality of persons, which have not some point of contrariety towards true knowledge. That monarchies incline wits to profit and pleasure, and commonwealths to glory and vanity. That universities incline wits to sophistry and affectation, cloisters to fables and unprofitable subtilty, study at large to variety; and that it is hard to say, whether mixture of contemplations with an active life, or retiring wholly to contemplations, do disable and hinder the mind more.

ADVANCEMENT OF LEARNING.

PREFACE

TO

THE ADVANCEMENT OF LEARNING.

THE first edition of the *Advancement of Learning* is dated 1605. In what month it appeared is doubtful; but from certain allusions in a letter sent by Bacon to Tobie Matthew with a presentation copy, I gather (for the letter bears no date) that it was not out before the latter end of October.

Tobie Matthew, eldest son of the Bishop of Durham, was then about 27 years old, and had been intimate with Bacon, certainly for the last three years, and probably for more. Bacon had a high opinion of his abilities and seems to have consulted him about his works. "I have now at last (he says in this letter) taught that child to go, at the swaddling whereof you were. My work touching the *Proficiency and Advancement of Learning* I have put into two books, whereof the former, which you saw, I account but as a Page to the latter. I have now published them both, whereof I thought it a small adventure to send you a copy, who have more right to it than any man, except Bishop Andrews, who was my Inquisitor."[1]

[1] Sir Tobie Matthew's collection of English letters, p. xi. Andrews was made a Bishop on the 3d of November, 1605.

Now Matthew had been abroad since April, 1605; and as he had seen the first book only, it is probable that the second was not then written; a circumstance which may be very naturally accounted for, if I am right in supposing that the *Advancement of Learning* was begun immediately after the accession of James I. From the death of Elizabeth, 24th March, 1602–3, to the meeting of James's first Parliament, 19th March, 1603–4, Bacon had very little to do. He held indeed the same place among the Learned Counsel which he had held under Elizabeth, but his services were little if at all used. On the 3d of July, 1603, we find him writing to Lord Cecil: — "For my purpose or course, I desire to meddle as little as I can in the King's causes, his Majesty now abounding in counsel. . . . My ambition now I shall only put upon my pen, whereby I shall be able to maintain memory and merit of the times succeeding." And in the trial of Sir Walter Raleigh at Winchester in the following November (though it was a complicated case involving many persons and requiring a great number of examinations) he does not appear to have been employed at all. But from the meeting of Parliament in March till the end of 1604 he was incessantly employed; first during the session (which lasted till the 7th of July) in the business of the House of Commons; then during the vacation, in preparation for the Commission of the Union[1] which was to meet in October; and from that time to the beginning of December in the business of the Commission itself; — all matters of extreme urgency and

[1] See "Certain Articles or Considerations touching the union of the Kingdoms of England and Scotland; collected and dispersed for His Majesty's better service."

importance, and the "labour whereof, for men of his profession, rested most upon his hand."[1]

On the 4th of December the Commissioners signed their report; and on the 24th the next meeting of Parliament, which had been fixed for February, was postponed till October. This prorogation secured Bacon another interval of leisure; an interval longer perhaps, considering the nature of the public services which had now fallen upon him, than he was likely soon again to enjoy; and which it was the more important therefore to use in finishing the great literary work which he had begun. The same consideration may have determined him to be content with a less perfect treatment of the subject than he had originally designed; for certainly the second book, though so much the more important of the two, is in point of execution much less careful and elaborate than the first, and bears many marks of hasty composition. The presumption that an interval occurred between the writing of the two is further confirmed by the fact that they were not printed at the same time. The first ends with a half-sheet, and the second begins upon a fresh one with a new signature; whence I suppose we may infer that the first had been printed off before the second was ready for the press.

Of the motives which induced Bacon to undertake and hurry forward the *Advancement of Learning* at that particular time, and of those which afterwards suggested the incorporation of it into his great work on the Interpretation of Nature, I have already explained my own view in my preface to the *De Augmentis*. Upon all matters requiring explanation or

[1] Letter to the King, touching the Solicitor's place.

illustration the reader is referred to Mr. Ellis's notes upon the corresponding passages in that more finished work; and that the reference may be more easy I have marked the places where the several chapters begin; adding some account, more or less complete, of the principal differences between the two. In many cases these differences are so extensive that no adequate idea of their nature could be given within the limits of a note; and in such cases I have been content with a simple reference to the place. But where the substance of any addition or alteration which seemed to me material could be stated succinctly, — especially if it involved any modification of the opinion expressed in the text, — I have generally endeavoured to state it; sometimes translating Bacon's words, sometimes giving the effect in my own, as I found most convenient.

For the text, I have treated the edition of 1605 as the only original authority; the corrections introduced by later editors, though often unquestionably right, being (as far as I can see) merely conjectural. And therefore, though I have adopted all such corrections into the text whenever I was satisfied that they give the true reading, I have always quoted in a note the reading of the original. Only in the typographical arrangement with respect to capitals, italics, &c., (which in the original was probably left to the printer's taste, and is inconsistent in itself, and would be perplexing to modern eyes,) and also in the punctuation, which is extremely confused and inaccurate, I have used the full liberty of my own judgment; altering as much as I pleased, and endeavouring only to make the sense clear to an eye accustomed to modern books, with-

out encumbering the page with any notice of such alterations.

There is one innovation however which I have ventured to introduce and which it is necessary to explain. The *Advancement of Learning* was written for readers who were familiar with Latin, and abounds with Latin quotations. In these days it may be read with profit by many persons of both sexes to whom such quotations are a very perplexing obstruction. Forming as they generally do a part of the context, so that the sentence is not complete without them, those who cannot read Latin are in many cases unable to follow the sense of the English. To give such readers the means of understanding them seemed therefore no less than necessary; and I thought the true effect of them would be conveyed to the mind most perfectly and satisfactorily by presenting the interpretations in such a form that they might be read in their places, just as they would have been had they formed part of the original text, and just as they are in those passages where Bacon has himself furnished the interpretation. Following his example therefore as nearly as I could, I have endeavoured to give the effect of each of these Latin quotations in such a form as seemed to suit best the English idiom and to fall best into the English context; not tying myself to literal translation, but rather preferring to vary the expression, especially where I could by that means give it such a turn as to throw the emphasis more distinctly upon that part of the quotation which was more particularly in point. Thus it will be found, I think, that those who understand the Latin may still read the English without feeling it to be a mere repetition, while those who do not will in

reading the English alone find the sense always complete. It was evident however that translations of this kind could not be read in this way conveniently if inserted in notes at the bottom of the page; and therefore, there being no room in the margin, I have ventured to insert them in the text; from which however, that they may not be mistaken for a part of it, I have always taken care to distinguish them by brackets. In a few cases where a Latin quotation occurs, not followed by a translation within brackets, it is to be understood that it is introduced merely as a voucher for what has just been said in the English, or for the purpose of suggesting a classical allusion which a translation would not suggest except to a classical reader, and that the sense is complete without it. In a few other cases where a quotation is followed by a translation *not* included within brackets, it is to be understood that it is Bacon's own translation and forms part of the original text.

For all the notes except those signed *R. L. E.*, which are Mr. Ellis's, I am responsible.

J. S.

THE

TWOO BOOKES OF FRANCIS BACON

OF THE

PROFICIENCE

AND

ADVANCEMENT OF LEARNING

DIVINE AND HUMANE.

TO THE KING.

AT LONDON:

Printed for Henrie Tomes, and are to be sold at his shop at Graies Inne Gate in Holborne.

1605.

THE

FIRST BOOK OF FRANCIS BACON

OF THE

PROFICIENCE AND ADVANCEMENT OF LEARNING

DIVINE AND HUMAN.

TO THE KING.

THERE were under the Law (excellent King) both daily sacrifices and freewill offerings; the one proceeding upon ordinary observance, the other upon a devout cheerfulness. In like manner there belongeth to kings from their servants both tribute of duty and presents of affection. In the former of these I hope I shall not live to be wanting, according to my most humble duty, and the good pleasure of your Majesty's employments: for the later, I thought it more respective to make choice of some oblation which might rather refer to the propriety and excellency of your individual person, than to the business of your crown and state.

Wherefore representing your Majesty many times unto my mind, and beholding you not with the inquisitive eye of presumption to discover that which

the Scripture telleth me is inscrutable, but with the observant eye of duty and admiration; leaving aside the other parts of your virtue and fortune, I have been touched, yea and possessed with an extreme wonder at those your virtues and faculties which the philosophers call intellectual; the largeness of your capacity, the faithfulness of your memory, the swiftness of your apprehension, the penetration of your judgment, and the facility and order of your elocution: and I have often thought that of all the persons living that I have known, your Majesty were the best instance to make a man of Plato's opinion, that all knowledge is but remembrance, and that the mind of man by nature knoweth all things, and hath but her own native and original notions[1] (which by the strangeness and darkness of this tabernacle of the body are sequestered) again revived and restored: such a light of nature I have observed in your Majesty, and such a readiness to take flame and blaze from the least occasion presented, or the least spark of another's knowledge delivered. And as the Scripture saith of the wisest king, *That his heart was as the sands of the sea;* which though it be one of the largest bodies yet it consisteth of the smallest and finest portions; so hath God given your Majesty a composition of understanding admirable, being able to compass and comprehend the greatest matters, and nevertheless to touch and apprehend the least; whereas it should seem an impossibility in nature for the same instrument to make itself fit for great and small works. And for your gift of speech, I call to mind what Cornelius Tacitus saith of Augustus Cæsar; *Augusto profluens, et quæ principem deceret, eloquentia*

[1] So edd. 1629 and 1633. Ed. 1605 has *motions*.

fuit; [that his style of speech was flowing and prince-like:[1]] for if we note it well, speech that is uttered with labour and difficulty, or speech that savoureth of the affectation of art and precepts, or speech that is framed after the imitation of some pattern of eloquence, though never so excellent, — all this has somewhat servile, and holding of the subject. But your Majesty's manner of speech is indeed prince-like, flowing as from a fountain, and yet streaming and branching itself into nature's order, full of facility and felicity, imitating none and inimitable by any. And as in your civil estate there appeareth to be an emulation and contention of your Majesty's virtue with your fortune; a virtuous disposition with a fortunate regiment; a virtuous expectation (when time was) of your greater fortune, with a prosperous possession thereof in the due time; a virtuous observation of the laws of marriage, with most blessed and happy fruit of marriage; a virtuous and most Christian desire of peace, with a fortunate inclination in your neighbour princes thereunto: so likewise in these intellectual matters, there seemeth to be no less contention between the excellency of your Majesty's gifts of nature and the universality and perfection of your learning. For I am well assured that this which I shall say is no amplification at all, but a positive and measured truth; which is, that there hath not been since Christ's time any king or temporal monarch which hath been so learned in all literature and erudition, divine and human. For let

[1] Observe that the translations within brackets are not in the original, but inserted by myself. My reasons for adopting this plan, and the principle upon which I have proceeded in translating, are explained in the preface.

a man seriously and diligently revolve and peruse the succession of the emperors of Rome, of which Cæsar the dictator, who lived some years before Christ, and Marcus Antoninus were the best learned; and so descend to the emperors of Græcia, or of the West, and then to the lines of France, Spain, England, Scotland, and the rest; and he shall find this judgment is truly made.[1] For it seemeth much in a king, if by the compendious extractions of other men's wits and labours he can take hold of any superficial ornaments and shews of learning, or if he countenance and prefer learning and learned men: but to drink indeed of the true fountains of learning, nay to have such a fountain of learning in himself, in a king, and in a king born, is almost a miracle. And the more, because there is met in your Majesty a rare conjunction as well of divine and sacred literature as of profane and human; so as your Majesty standeth invested of that triplicity which in great veneration was ascribed to the ancient Hermes; the power and fortune of a King, the knowledge and illumination of a Priest, and the learning and universality of a Philosopher. This propriety inherent and individual attribute in your Majesty deserveth to be expressed not only in the fame and admiration of the present time, nor in the history or tradition of the ages succeeding; but also in some solid work, fixed memorial, and immortal monument, bearing a character or signature both of the power of a king and the difference and perfection of such a king.

Therefore I did conclude with myself, that I could

[1] In the translation the reference to the particular dynasties is omitted; he only says,— *Percurrat qui voluerit imperatorum et rerum seriem, et juxta mecum sentiet.*

not make unto your Majesty a better oblation than of some treatise tending to that end; whereof the sum will consist of these two parts: the former concerning the excellency of learning and knowledge, and the excellency of the merit and true glory in the augmentation and propagation thereof; the later,[1] what the particular acts and works are which have been embraced and undertaken for the advancement of learning, and again what defects and undervalues I find in such particular acts; to the end that though I cannot positively or affirmatively advise your Majesty, or propound unto you framed particulars, yet I may excite your princely cogitations to visit the excellent treasure of your own mind, and thence to extract particulars for this purpose agreeable to your magnanimity and wisdom.

In the entrance to the former of these, — to clear the way, and as it were to make silence to have the true testimonies concerning the dignity of learning to be better heard without the interruption of tacit objections, — I think good to deliver it from the discredits and disgraces which it hath received; all from ignorance; but ignorance severally disguised; appearing sometimes in the zeal and jealousy of divines, sometimes in the severity and arrogancy of politiques, and sometimes in the errors and imperfections of learned men themselves.

I hear the former sort say, that knowledge is of

[1] I have observed elsewhere, that it was only the latter part which entered into the original scheme of the *Instauratio Magna*. And though in adapting the *Advancement of Learning* to it, he retained the former part, yet he marks it in the translation as comparatively unimportant; adding with regard to the first, *quæ levior est, neque tamen ullo modo prætermittenda*, and with regard to the second, *quod caput rei est*.

those things which are to be accepted of with great limitation and caution; that the aspiring to over-much knowledge was the original temptation and sin, whereupon ensued the fall of man; that knowledge hath in it somewhat of the serpent, and therefore where it entereth into a man it makes him swell, — *Scientia inflat*, [knowledge puffeth up;] that Salomon gives a censure, *That there is no end of making books, and that much reading is weariness of the flesh;* and again in another place, *That in spacious knowledge there is much contristation, and that he that increaseth knowledge increaseth anxiety;* that St. Paul gives a caveat, *That we be not spoiled through vain philosophy;* that experience demonstrates how learned men have been arch heretics, how learned times have been inclined to atheism, and how the contemplation of second causes doth derogate from our dependence upon God, who is the first cause.

To discover then the ignorance and error of this opinion and the misunderstanding in the grounds thereof, it may well appear these men do not observe or consider that it was not the pure knowledge of nature and universality, a knowledge by the light whereof man did give names unto other creatures in Paradise, as they were brought before him, according unto their proprieties, which gave the occasion to the fall; but it was the proud knowledge of good and evil, with an intent in man to give law unto himself and to depend no more upon God's commandments, which was the form of the temptation. Neither is it any quantity of knowledge how great soever that can make the mind of man to swell; for nothing can fill, much less extend, the soul of man, but God and the contemplation of God; and therefore Salomon speaking of the two prin-

cipal senses of inquisition, the eye and the ear, affirmeth that the eye is never satisfied with seeing, nor the ear with hearing; and if there be no fulness, then is the continent greater than the content: so of knowledge itself and the mind of man, whereto the senses are but reporters, he defineth likewise in these words, placed after that calendar or ephemerides which he maketh of the diversities of times and seasons for all actions and purposes; and concludeth thus: *God hath made all things beautiful, or decent, in the true return of their seasons: Also he hath placed the world in man's heart, yet cannot man find out the work which God worketh from the beginning to the end:* declaring not obscurely that God hath framed the mind of man as a mirror or glass capable of the image of the universal world, and joyful to receive the impression thereof, as the eye joyeth to receive light; and not only delighted in beholding the variety of things and vicissitude of times, but raised also to find out and discern the ordinances and decrees which throughout all those changes are infallibly observed. And although he doth insinuate that the supreme or summary law of nature, which he calleth *the work which God worketh from the beginning to the end*, is not possible to be found out by man; yet that doth not derogate from the capacity of the mind, but may be referred to the impediments, as of shortness of life, ill conjunction of labours, ill tradition of knowledge over from hand to hand, and many other inconveniences whereunto the condition of man is subject. For that nothing parcel of the world is denied to man's inquiry and invention he doth in another place rule over, when he saith, *The spirit of man is as the lamp of God, wherewith he searcheth the inwardness of all*

secrets. If then such be the capacity and receit of the mind of man, it is manifest that there is no danger at all in the proportion or quantity of knowledge, how large soever, lest it should make it swell or out-compass itself; no, but it is merely the quality of knowledge, which be it in quantity more or less, if it be taken without the true corrective thereof, hath in it some nature of venom or malignity, and some effects of that venom, which is ventosity or swelling. This corrective spice, the mixture whereof maketh knowledge so sovereign, is Charity, which the apostle immediately addeth to the former clause; for so he saith, *knowledge bloweth up, but charity buildeth up;* not unlike unto that which he delivereth in another place: *If I spake* (saith he) *with the tongues of men and angels, and had not charity, it were but as a tinkling cymbal;* not but that it is an excellent thing to speak with the tongues of men and angels, but because if it be severed from charity, and not referred to the good of men and mankind, it hath rather a sounding and unworthy glory than a meriting and substantial virtue. And as for that censure of Salomon concerning the excess of writing and reading books and the anxiety of spirit which redoundeth from knowledge, and that admonition of St. Paul, *That we be not seduced by vain philosophy;* let those places be rightly understood, and they do indeed excellently set forth the true bounds and limitations whereby human knowledge is confined and circumscribed; and yet without any such contracting or coarctation, but that it may comprehend all the universal nature of things. For these limitations are three. The first, *that we do not so place our felicity in knowledge, as we forget our mortality.* The second, *that we*

make application of our knowledge to give ourselves repose and contentment, and not distaste or repining. The third, *that we do not presume by the contemplation of nature to attain to the mysteries of God.* For as touching the first of these, Salomon doth excellently expound himself in another place of the same book, where he saith; *I saw well that knowledge recedeth as far from ignorance as light doth from darkness, and that the wise man's eyes keep watch in his head, whereas the fool roundeth about in darkness: but withal I learned that the same mortality involveth them both.* And for the second, certain it is, there is no vexation or anxiety of mind which resulteth from knowledge otherwise than merely by accident; for all knowledge and wonder (which is the seed of knowledge) is an impression of pleasure in itself: but when men fall to framing conclusions out of their knowledge, applying it to their particular, and ministering to themselves thereby weak fears or vast desires, there groweth that carefulness and trouble of mind which is spoken of: for then knowledge is no more *Lumen siccum* [a dry light], whereof Heraclitus the profound said, *Lumen siccum optima anima*,[1] [the dry light is the best soul;] but it becometh *Lumen madidum* or *maceratum*, [a light charged with moisture,] being steeped and infused in the humours of the affections. And as for the third point, it deserveth to be a little stood upon and not to be lightly passed over: for if any man shall think by view and inquiry into

[1] *αὐγὴ ξηρὴ ψυχὴ σοφωτάτη*: a corruption, according to the conjecture of Professor W. H. Thompson, of *αἴη ψυχὴ σοφωτάτη*; *ξηρὴ* having been first inserted by one commentator, to explain the unusual word *αἴη*, and so passed into the text; *αἴη* having been turned into *αὐγὴ* by another, to make sense. See *Remains of Professor Archer Butler*, vol. i. p. 314.

these sensible and material things to attain that light whereby he may reveal unto himself the nature or will of God, then indeed is he spoiled by vain philosophy: for the contemplation of God's creatures and works produceth (having regard to the works and creatures themselves) knowledge; but having regard to God, no perfect knowledge, but wonder, which is broken knowledge. And therefore it was most aptly said by one of Plato's school, *That the sense of man carrieth a resemblance with the sun, which (as we see) openeth and revealeth all the terrestrial globe; but then again it obscureth and concealeth the stars and celestial globe: so doth the sense discover natural things, but it darkeneth and shutteth up divine.* And hence it is true that it hath proceeded that divers great learned men have been heretical, whilst they have sought to fly up to the secrets of the Deity by the waxen wings of the senses. And as for the conceit that too much knowledge should incline a man to atheism, and that the ignorance of second causes should make a more devout dependence upon God which is the first cause; first, it is good to ask the question which Job asked of his friends, *Will you lie for God, as one man will do for another, to gratify him?* For certain it is that God worketh nothing in nature but by second causes; and if they would have it otherwise believed, it is mere imposture, as it were in favour towards God; and nothing else but to offer to the author of truth the unclean sacrifice of a lie. But farther, it is an assured truth and a conclusion of experience, that a little or superficial knowledge of philosophy may incline the mind of man to atheism, but a farther proceeding therein doth bring the mind back again to religion; for in the entrance of philosophy,

when the second causes, which are next unto the senses, do offer themselves to the mind of man, if it dwell and stay there, it may induce some oblivion of the highest cause; but when a man passeth on farther, and seeth the dependence of causes and the works of Providence; then, according to the allegory of the poets, he will easily believe that the highest link of nature's chain must needs be tied to the foot of Jupiter's chair. To conclude therefore, let no man, upon a weak conceit of sobriety or an ill-applied moderation, think or maintain that a man can search too far or be too well studied in the book of God's word or in the book of God's works; divinity or philosophy; but rather let men endeavour an endless progress or proficience in both; only let men beware that they apply both to charity, and not to swelling; to use, and not to ostentation; and again, that they do not unwisely mingle or confound these learnings together.

And as for the disgraces which learning receiveth from politiques, they be of this nature; that learning doth soften men's minds, and makes them more unapt for the honour and exercise of arms; that it doth mar and pervert men's dispositions for matter of government and policy, in making them too curious and irresolute by variety of reading, or too peremptory or positive by strictness of rules and axioms, or too immoderate and overweening by reason of the greatness of examples, or too incompatible and differing from the times by reason of the dissimilitude of examples; or at least that it doth divert men's travails from action and business, and bringeth them to a love of leisure and privateness; and that it doth bring into states a relax-

ation of discipline, whilst every man is more ready to argue than to obey and execute. Out of this conceit Cato surnamed the Censor, one of the wisest men indeed that ever lived, when Carneades the philosopher came in embassage to Rome, and that the young men of Rome began to flock about him, being allured with the sweetness and majesty of his eloquence and learning, gave counsel in open senate that they should give him his dispatch with all speed, lest he should infect and inchant the minds and affections of the youth, and at unawares bring in an alteration of the manners and customs of the state. Out of the same conceit or humour did Virgil, turning his pen to the advantage of his country and the disadvantage of his own profession, make a kind of separation between policy and government and between arts and sciences, in the verses so much renowned, attributing and challenging the one to the Romans, and leaving and yielding the other to the Grecians; *Tu regere imperio populos, Romane, memento, Hæ tibi erunt artes*, &c.

[Be thine, O Rome,
With arts of government to rule the nations.]

So likewise we see that Anytus, the accuser of Socrates, laid it as an article of charge and accusation against him that he did with the variety and power of his discourses and disputations withdraw young men from due reverence to the laws and customs of their country; and that he did profess a dangerous and pernicious science, which was to make the worse matter seem the better, and to suppress truth by force of eloquence and speech.

But these and the like imputations have rather a countenance of gravity than any ground of justice:

for experience doth warrant that both in persons and in times there hath been a meeting and concurrence in learning and arms, flourishing and excelling in the same men and the same ages. For as for men, there cannot be a better nor the like instance, as of that pair, Alexander the Great and Julius Cæsar the dictator; whereof the one was Aristotle's scholar in philosophy, and the other was Cicero's rival in eloquence; or if any man had rather call for scholars that were great generals than generals that were great scholars, let him take Epaminondas the Theban, or Xenophon the Athenian; whereof the one was the first that abated the power of Sparta, and the other was the first that made way to the overthrow of the monarchy of Persia. And this concurrence is yet more visible in times than in persons, by how much an age is greater object than a man. For both in Ægypt, Assyria, Persia, Græcia, and Rome, the same times that are most renowned for arms are likewise most admired for learning; so that the greatest authors and philosophers and the greatest captains and governors have lived in the same ages. Neither can it otherwise be: for as in man the ripeness of strength of the body and mind cometh much about an age, save that the strength of the body cometh somewhat the more early; so in states, arms and learning, whereof the one correspondeth to the body, the other to the soul of man, have a concurrence or near sequence in times.

And for matter of policy and government, that learning should rather hurt than enable thereunto, is a thing very improbable. We see it is accounted an error to commit a natural body to empiric physicians, which commonly have a few pleasing receits whereupon they

are confident and adventurous, but know neither the causes of diseases, nor the complexions of patients, nor peril of accidents, nor the true method of cures. We see it is a like error to rely upon advocates or lawyers which are only men of practice and not grounded in their books, who are many times easily surprised when matter falleth out besides their experience, to the prejudice of the causes they handle. So by like reason it cannot be but a matter of doubtful consequence, if states be managed by empiric statesmen, not well mingled with men grounded in learning. But contrariwise, it is almost without instance contradictory, that ever[1] any government was disastrous that was in the hands of learned governors. For howsoever it hath been ordinary with politic men to extenuate and disable learned men by the names of *Pedantes;* yet in the records of time it appeareth in many particulars, that the governments of princes in minority (notwithstanding the infinite disadvantage of that kind of state) have nevertheless excelled the government of princes of mature age, even for that reason which they seek to traduce, which is, that by that occasion the state hath been in the hands of *Pedantes:* for so was the state of Rome for the first five years, which are so much magnified, during the minority of Nero, in the hands of Seneca, a *Pedanti:* so it was again for ten years space or more, during the minority of Gordianus the younger, with great applause and contentation in the hands of Misitheus, a *Pedanti:* so was it before that, in the minority of Alexander Severus, in like happiness, in hands not much unlike, by reason of the rule of the women, who were aided by the teachers and precep-

[1] So in all the editions.

tors. Nay let a man look into the government of the bishops of Rome, as by name into the government of Pius Quintus and Sextus Quintus in our times, who were both at their entrance esteemed but as pedantical friars, and he shall find that such popes do greater things, and proceed upon truer principles of estate, than those which have ascended to the papacy from an education and breeding in affairs of estate and courts of princes; for although men bred in learning are perhaps to seek in points of convenience and accommodating for the present, which the Italians call *ragioni di stato*, whereof the same Pius Quintus could not hear spoken with patience, terming them inventions against religion and the moral virtues; yet on the other side, to recompense that, they are perfect in those same plain grounds of religion, justice, honour, and moral virtue; which if they be well and watchfully pursued, there will be seldom use of those other, no more than of physic in a sound or well-dieted body. Neither can the experience of one man's life furnish examples and precedents for the events of one man's life: for as it happeneth sometimes that the grandchild or other descendant resembleth the ancestor more than the son; so many times occurrences of present times may sort better with ancient examples than with those of the later or immediate times: and lastly, the wit of one man can no more countervail learning than one man's means can hold way with a common purse.

And as for those particular seducements or indispositions of the mind for policy and government, which learning is pretended to insinuate; if it be granted that any such thing be, it must be remembered withal, that learning ministereth in every of them greater strength

of medicine or remedy, than it offereth cause of indisposition or infirmity. For if by a secret operation it make men perplexed and irresolute, on the other side by plain precept it teacheth them when and upon what ground to resolve; yea, and how to carry things in suspense without prejudice till they resolve. If it make men positive and regular, it teacheth them what things are in their nature demonstrative, and what are conjectural; and as well the use of distinctions and exceptions, as the latitude of principles and rules. If it mislead by disproportion or dissimilitude of examples, it teacheth men the force of circumstances, the errors of comparisons, and all the cautions of application; so that in all these it doth rectify more effectually than it can pervert. And these medicines it conveyeth into men's minds much more forcibly by the quickness and penetration of examples. For let a man look into the errors of Clement the seventh, so lively described by Guicciardine, who served under him, or into the errors of Cicero painted out by his own pencil in his epistles to Atticus, and he will fly apace from being irresolute. Let him look into the errors of Phocion, and he will beware how he be obstinate or inflexible. Let him but read the fable of Ixion, and it will hold him from being vaporous or imaginative. Let him look into the errors of Cato the second, and he will never be one of the Antipodes, to tread opposite to the present world.

And for the conceit that learning should dispose men to leisure and privateness, and make men slothful; it were a strange thing if that which accustometh the mind to a perpetual motion and agitation should induce slothfulness; whereas contrariwise it may be truly affirmed that no kind of men love business for itself but

those that are learned; for other persons love it for profit, as an hireling that loves the work for the wages; or for honour, as because it beareth them up in the eyes of men, and refresheth their reputation which otherwise would wear; or because it putteth them in mind of their fortune, and giveth them occasion to pleasure and displeasure; or because it exerciseth some faculty wherein they take pride, and so entertaineth them in good humour and pleasing conceits toward themselves; or because it advanceth any other their ends. So that as it is said of untrue valours that some men's valours are in the eyes of them that look on, so such men's industries are in the eyes of others, or at least in regard of their own designments;[1] only learned men love business as an action according to nature, as agreeable to health of mind as exercise is to health of body, taking pleasure in the action itself, and not in the purchase: so that of all men they are the most indefatigable, if it be towards any business which can hold or detain their mind.

And if any man be laborious in reading and study and yet idle in business and action, it groweth from some weakness of body or softness of spirit, such as Seneca speaketh of; *Quidam tam sunt umbratiles, ut putent in turbido esse quicquid in luce est*, [there are some men so fond of the shade, that they think they are in trouble whenever they are in the light;] and not of learning. Well may it be that such a point of a man's nature may make him give himself to learning, but it is not learning that breedeth any such point in his nature.

[1] *i. e.* they have for their object either the applause of others or some inward gratification of their own. (*hoc videntur agere, aut ut alii plaudant, aut ut ipsi intra se gestiant.*)

And that learning should take up too much time or leisure; I answer, the most active or busy man that hath been or can be hath (no question) many vacant times of leisure, while he expecteth the tides and returns of business, (except he be either tedious and of no dispatch, or lightly and unworthily ambitious to meddle in things that may be better done by others;) and then the question is but how those spaces and times of leisure shall be filled and spent; whether in pleasures or in studies; as was well answered by Demosthenes to his adversary Æschines,[1] that was a man given to pleasure, and told him *that his orations did smell of the lamp: Indeed* (said Demosthenes) *there is a great difference between the things that you and I do by lamp-light.* So as no man need doubt that learning will expulse business; but rather it will keep and defend the possession of the mind against idleness and pleasure, which otherwise at unawares may enter to the prejudice of both.

Again, for that other conceit that learning should undermine the reverence of laws and government, it is assuredly a mere depravation and calumny without all shadow of truth. For to say that a blind custom of obedience should be a surer obligation than duty taught and understood, it is to affirm that a blind man may tread surer by a guide than a seeing man can by a light. And it is without all controversy that learning doth make the minds of men gentle, generous, maniable, and pliant to government; whereas ignorance makes them churlish, thwart, and mutinous: and the evidence of time doth clear this assertion, considering that the most barbarous, rude, and unlearned times

[1] Pytheas, according to Plutarch.

have been most subject to tumults, seditions, and changes.

And as to the judgment of Cato the Censor, he was well punished for his blasphemy against learning, in the same kind wherein he offended; for when he was past threescore years old, he was taken with an extreme desire to go to school again and to learn the Greek tongue, to the end to peruse the Greek authors; which doth well demonstrate, that his former censure of the Grecian learning was rather an affected gravity, than according to the inward sense of his own opinion. And as for Virgil's verses, though it pleased him to brave the world in taking to the Romans the art of empire, and leaving to others the arts of subjects; yet so much is manifest, that the Romans never ascended to that height of empire till the time they had ascended to the height of other arts; for in the time of the two first Cæsars, which had the art of government in greatest perfection, there lived the best poet, Virgilius Maro; the best historiographer, Titus Livius; the best antiquary, Marcus Varro; and the best, or second orator, Marcus Cicero, that to the memory of man are known. As for the accusation of Socrates, the time must be remembered when it was prosecuted; which was under the thirty tyrants, the most base, bloody, and envious persons that have governed; which revolution of state was no sooner over, but Socrates, whom they had made a person criminal, was made a person heroical, and his memory accumulate with honours divine and human; and those discourses of his, which were then termed corrupting of manners, were after acknowledged for sovereign medicines of the mind and manners, and so

have been received ever since till this day. Let this therefore serve for answer to politiques, which in their humorous severity or in their feigned gravity have presumed to throw imputations upon learning; which redargution nevertheless (save that we know not whether our labours may extend to other ages) were not needful for the present, in regard of the love and reverence towards learning which the example and countenance of two so learned princes, queen Elizabeth and your Majesty, being as Castor and Pollux, *lucida sidera*, stars of excellent light and most benign influence, hath wrought in all men of place and authority in our nation.

Now therefore we come to that third sort of discredit or diminution of credit, that groweth unto learning from learned men themselves, which commonly cleaveth fastest. It is either from their fortune, or from their manners, or from the nature of their studies. For the first, it is not in their power; and the second is accidental; the third only is proper to be handled. But because we are not in hand with true measure, but with popular estimation and conceit, it is not amiss to speak somewhat of the two former. The derogations therefore which grow to learning from the fortune or condition of learned men, are either in respect of scarcity of means, or in respect of privateness of life and meanness of employments.

Concerning want, and that it is the case of learned men usually to begin with little and not to grow rich so fast as other men, by reason they convert not their labours chiefly to lucre and increase; it were good to leave the common place in commendation of poverty

to some friar to handle,[1] to whom much was attributed by Machiavel in this point, when he said, *That the kingdom of the clergy had been long before at an end, if the reputation and reverence towards the poverty of friars had not borne out the scandal of the superfluities and excesses of bishops and prelates.* So a man might say that the felicity and delicacy of princes and great persons had long since turned to rudeness and barbarism, if the poverty of learning had not kept up civility and honour of life. But without any such advantages, it is worthy the observation what a reverend and honoured thing poverty of fortune was for some ages in the Roman state, which nevertheless was a state without paradoxes. For we see what Titus Livius saith in his introduction: *Cæterum aut me amor negotii suscepti fallit, aut nulla unquam respublica nec major, nec sanctior, nec bonis exemplis ditior fuit; nec in quam tam seræ avaritia luxuriaque immigraverint; nec ubi tantus ac tam diu paupertati ac parsimoniæ honos fuerit:* [that if affection for his subject did not deceive him, there was never any state in the world either greater or purer or richer in good examples; never any into which avarice and luxury made their way so late; never any in which poverty and frugality were for so long a time held in so great honour]. We see likewise, after that the state of Rome was not itself but did degenerate, how that person that took upon him to be counsellor to Julius Cæsar after his victory, where to begin his restoration of the state, maketh it of all points the most summary to take away the estimation of wealth: *Verum hæc et omnia mala pariter cum honore pecuniæ desinent; si neque magistratus, neque alia vulgo cupienda,*

[1] Patribus mendicantibus (pace eorum dixerim). — *De Aug.*

venalia erunt: [but these and all other evils (he says) will cease as soon as the worship of money ceases; which will come to pass when neither magistracies nor other things that are objects of desire to the vulgar shall be to be had for money]. To conclude this point, as it was truly said that *rubor est virtutis color*, [a blush is virtue's colour,] though sometime it come from vice; so it may be fitly said that *paupertas est virtutis fortuna*, [poverty is virtue's fortune,] though sometime it may proceed from misgovernment and accident. Surely Salomon hath pronounced it, both in censure, *Qui festinat ad divitias non erit insons*, [he that maketh haste to be rich shall not be innocent;] and in precept, *Buy the truth, and sell it not; and so of wisdom and knowledge;* judging that means were to be spent upon learning, and not learning to be applied to means. And as for the privateness or obscureness (as it may be in vulgar estimation accounted) of life of contemplative men; it is a theme so common to extol a private life, not taxed with sensuality and sloth, in comparison and to the disadvantage of a civil life, for safety, liberty, pleasure, and dignity, or at least freedom from indignity, as no man handleth it but handleth it well; such a consonancy it hath to men's conceits in the expressing and to men's consents in the allowing. This only I will add, that learned men forgotten in states, and not living in the eyes of men, are like the images of Cassius and Brutus in the funeral of Junia; of which not being represented, as many others were, Tacitus saith, *Eo ipso præfulgebant, quod non visebantur;* [they had the preëminence over all — in being left out].

And for meanness of employment, that which is most traduced to contempt is that the government

of youth is commonly allotted to them; which age, because it is the age of least authority, it is transferred to the disesteeming of those employments wherein youth is conversant, and which are conversant about youth. But how unjust this traducement is (if you will reduce things from popularity of opinion to measure of reason) may appear in that we see men are more curious what they put into a new vessel than into a vessel seasoned, and what mould they lay about a young plant than about a plant corroborate; so as the weakest terms and times of all things use to have the best applications and helps. And will you hearken to the Hebrew Rabbins? *Your young men shall see visions, and your old men shall dream dreams;* say they[1] youth is the worthier age, for that visions are nearer apparitions of God than dreams. And let it be noted, that howsoever the conditions of life of *Pedantes* have[2] been scorned upon theatres, as the ape of tyranny; and that the modern looseness or negligence hath taken no due regard to the choice of school-masters and tutors; yet the ancient wisdom of the best times did always make a just complaint that states were too busy with their laws and too negligent in point of education: which excellent part of ancient discipline hath been in some sort revived of late times by the colleges of the Jesuits; of whom, although in regard of their superstition I may say, *quo meliores, eo deteriores*,[3] [the

[1] So in the original. Edd. 1629 and 1633 have *the*. The meaning is, "upon this text they observe," &c. (*Ex hoc textu colligunt.*)

[2] So ed. 1633. The original has *hath*.

[3] This parenthesis is omitted in the translation, no doubt as offensive to the Roman Catholics. Several other passages of the same kind occur in the *Advancement*, and they are all treated in the same way. The motive for which is sufficiently explained by Bacon himself in the letter which he sent to the King along with the *De Augmentis*. "I have been also (he

better the worse;] yet in regard of this, and some other points concerning human learning and moral matters, I may say, as Agesilaus said to his enemy Pharnabazus, *talis quum sis, utinam noster esses*, [they are so good that I wish they were on our side]. And thus much touching the discredits drawn from the fortunes of learned men.

As touching the manners of learned men, it is a thing personal and individual: and no doubt there be amongst them, as in other professions, of all temperatures: but yet so, as it is not without truth which is said, that *abeunt studia in mores*, studies have an influence and operation upon the manners of those that are conversant in them.[1]

But upon an attentive and indifferent review, I for my part cannot find any disgrace to learning can proceed from the manners of learned men; not inherent to them as they are learned;[2] except it be a fault (which was the supposed fault of Demosthenes, Cicero, Cato the second, Seneca, and many more) that because the times they read of are commonly better than the times they live in, and the duties taught better than the duties practised, they contend sometimes too far to bring things to perfection, and to reduce the corruption of

says) mine own *Index Expurgatorius*, that it may be read in all places. For since my end of putting it into Latin was to have it read everywhere, it had been an absurd contradiction to free it in the language and to pen it up in the matter." Mr. Ellis made a list of these passages, which will be noticed in their places. The word *enemy* in the next clause is omitted, probably from the same motive.

[1] And that learning (the translation adds), unless the mind into which it enters be much depraved, corrects the natural disposition and changes it for the better.

[2] *i. e.* not [I mean, from such manners as are] inherent, &c. (*nullum occurrit dedecus literis, ex literatorum moribus, quatenus sunt literati, adhærens.*)

manners to honesty of precepts or examples of too great height. And yet hereof they have caveats enough in their own walks. For Solon, when he was asked whether he had given his citizens the best laws, answered wisely, *Yea of such as they would receive:* and Plato, finding that his own heart could not agree with the corrupt manners of his country, refused to bear place or office; saying, *That a man's country was to be used as his parents were, that is, with humble persuasions, and not with contestations:* and Cæsar's counsellor put in the same caveat, *Non ad vetera instituta revocans quæ jampridem corruptis moribus ludibrio sunt:* [not to attempt to bring things back to the original institution, now that by reason of the corruption of manners the ancient simplicity and purity had fallen into contempt:] and Cicero noteth this error directly in Cato the second, when he writes to his friend Atticus; *Cato optime sentit, sed nocet interdum reipublicæ; loquitur enim tanquam in republica Platonis, non tanquam in fœce Romuli:* [Cato means excellently well; but he does hurt sometimes to the state; for he talks as if it were Plato's republic that we are living in, and not the dregs of Romulus:] and the same Cicero doth excuse and expound the philosophers for going too far and being too exact in their prescripts, when he saith, *Isti ipsi præceptores virtutis et magistri videntur fines officiorum paulo longius quam natura vellet protulisse, ut cum ad ultimum animo contendissemus, ibi tamen, ubi oportet, consisteremus:* [that they had set the points of duty somewhat higher than nature would well bear; meaning belike to allow for shortcomings, and that our endeavours aiming beyond the mark and falling short, should light at the right

place:] and yet himself might have said, *Monitis sum minor ipse meis*, [that he fell short of his own precepts]; for it was his own fault, though not in so extreme a degree.

Another fault likewise much of this kind hath been incident to learned men; which is, that they have esteemed the preservation, good, and honour of their countries or masters before their own fortunes or safeties. For so saith Demosthenes unto the Athenians: *If it please you to note it, my counsels unto you are not such whereby I should grow great amongst you, and you become little amongst the Grecians: but they be of that nature, as they are sometimes not good for me to give, but are always good for you to follow.* And so Seneca, after he had consecrated that *Quinquennium Neronis* to the eternal glory of learned governors, held on his honest and loyal course of good and free counsel, after his master grew extremely corrupt in his government. Neither can this point otherwise be; for learning endueth men's minds with a true sense of the frailty of their persons, the casualty of their fortunes, and the dignity of their soul and vocation; so that it is impossible for them to esteem that any greatness of their own fortune can be a true or worthy end of their being and ordainment; and therefore are desirous to give their account to God, and so likewise to their masters under God (as kings and the states that they serve), in these words; *Ecce tibi lucrefeci*, and not *Ecce mihi lucrefeci*, ['Lo, I have gained for thee,' not 'Lo, I have gained for myself:'] whereas the corrupter sort of mere politiques, that have not their thoughts established by learning in the love and apprehension of duty, nor never look abroad into uni-

versality, do refer all things to themselves, and thrust themselves into the centre of the world, as if all lines should meet in them and their fortunes; never caring in all tempests what becomes of the ship of estates, so they may save themselves in the cockboat of their own fortune; whereas men that feel the weight of duty, and know the limits of self-love, use to make good their places and duties, though with peril. And if they stand in seditious and violent alterations, it is rather the reverence which many times both adverse parts do give to honesty, than any versatile advantage of their own carriage. But for this point of tender sense and fast obligation of duty, which learning doth endue the mind withal, howsoever fortune may tax it and many in the depth of their corrupt principles may despise it, yet it will receive an open allowance, and therefore needs the less disproof or excusation.

Another fault incident commonly to learned men, which may be more probably defended than truly denied, is that they fail sometimes in applying themselves to particular persons: which want of exact application ariseth from two causes; the one, because the largeness of their mind can hardly confine itself to dwell in the exquisite observation or examination of the nature and customs of one person: for it is a speech for a lover and not for a wise man, *Satis magnum alter alteri theatrum sumus*, [each is to other a theatre large enough]. Nevertheless I shall yield, that he that cannot contract the sight of his mind as well as disperse and dilate it, wanteth a great faculty. But there is a second cause, which is no inability but a rejection upon choice and judgment. For the honest

and just bounds of observation by one person upon another extend no farther but to understand him sufficiently, whereby not to give him offence, or whereby to be able to give him faithful counsel, or whereby to stand upon reasonable guard and caution in respect of a man's self: but to be speculative into another man, to the end to know how to work him or wind him or govern him, proceedeth from a heart that is double and cloven, and not entire and ingenuous; which as in friendship it is want of integrity, so towards princes or superiors is want of duty. For the custom of the Levant, which is, that subjects do forbear to gaze or fix their eyes upon princes, is in the outward ceremony barbarous; but the moral is good: for men ought not by cunning and bent observations to pierce and penetrate into the hearts of kings, which the Scripture hath declared to be inscrutable.

There is yet another fault (with which I will conclude this part) which is often noted in learned men, that they do many times fail to observe decency and discretion in their behaviour and carriage, and commit errors in small and ordinary points of action; so as the vulgar sort of capacities do make a judgment of them in greater matters by that which they find wanting in them in smaller. But this consequence doth oft deceive men; for which I do refer them over to that which was said by Themistocles, arrogantly and uncivilly being applied to himself out of his own mouth, but being applied to the general state of this question pertinently and justly; when being invited to touch a lute, he said *he could not fiddle, but he could make a small town a great state.* So no doubt many may be well seen in the passages of gov-

ernment and policy, which are to seek in little and punctual occasions. I refer them also to that which Plato said of his master Socrates, whom he compared to the gallypots of apothecaries, which on the outside had apes and owls and antiques, but contained within sovereign and precious liquors and confections; acknowledging that to an external report he was not without superficial levities and deformities, but was inwardly replenished with excellent virtues and powers. And so much touching the point of manners of learned men.

But in the mean time I have no purpose to give allowance to some conditions and courses base and unworthy, wherein divers professors of learning have wronged themselves and gone too far; such as were those trencher philosophers, which in the later age of the Roman state were usually in the houses of great persons, being little better than solemn parasites; of which kind, Lucian maketh a merry description of the philosopher that the great lady took to ride with her in her coach, and would needs have him carry her little dog, which he doing officiously and yet uncomely, the page scoffed, and said, *That he doubted the philosopher of a Stoic would turn to be a Cynic.* But above all the rest, the gross and palpable flattery whereunto many (not unlearned) have abased and abused their wits and pens, turning (as Du Bartas saith) Hecuba into Helena and Faustina into Lucretia, hath most diminished the price and estimation of learning. Neither is the moral [1] dedication of books and writings, as to patrons, to be commended:

[1] *i. e.* customary. *Morem illum receptum libros patronis nuncupandi.* — De Aug. Ed. 1629 has *moderne.*

for that books (such as are worthy the name of books) ought to have no patrons but truth and reason; and the ancient custom was to dedicate them only to private and equal friends, or to intitle the books with their names; or if to kings and great persons, it was to some such as the argument of the book was fit and proper for. But these and the like courses may deserve rather reprehension than defence.

Not that I can tax or condemn the morigeration or application of learned men to men in fortune. For the answer was good that Diogenes made to one that asked him in mockery, *How it came to pass that philosophers were the followers of rich men, and not rich men of philosophers?* He answered soberly, and yet sharply, *Because the one sort knew what they had need of, and the other did not.* And of the like nature was the answer which Aristippus made, when having a petition to Dionysius and no ear given to him, he fell down at his feet, whereupon Dionysius staid and gave him the hearing and granted it; and afterward some person tender on the behalf of philosophy, reproved Aristippus that he would offer the profession of philosophy such an indignity, as for a private suit to fall at a tyrant's feet: but he answered, *It was not his fault, but it was the fault of Dionysius, that had his ears in his feet.* Neither was it accounted weakness, but discretion, in him that would not dispute his best with Adrianus Cæsar; excusing himself, *That it was reason to yield to him that commanded thirty legions.* These and the like applications and stooping to points of necessity and convenience cannot be disallowed; for though they may have some outward baseness, yet in a judgment truly made they are to

be accounted submissions to the occasion and not to the person.

Now I proceed to those errors and vanities which have intervened amongst the studies themselves of the learned; which is that which is principal and proper to the present argument; wherein my purpose is not to make a justification of the errors, but, by a censure and separation of the errors, to make a justification of that which is good and sound, and to deliver that from the aspersion of the other. For we see that it is the manner of men to scandalize and deprave that which retaineth the state and virtue, by taking advantage upon that which is corrupt and degenerate: as the Heathens in the primitive church used to blemish and taint the Christians with the faults and corruptions of heretics. But nevertheless I have no meaning at this time to make any exact animadversion of the errors and impediments in matters of learning which are more secret and remote from vulgar opinion; but only to speak unto such as do fall under, or near unto, a popular observation.

There be therefore chiefly three vanities in studies, whereby learning hath been most traduced. For those things we do esteem vain, which are either false or frivolous, those which either have no truth or no use: and those persons we esteem vain, which are either credulous or curious; and curiosity is either in matter or words: so that in reason as well as in experience, there fall out to be these three distempers (as I may term them) of learning; the first, fantastical learning; the second, contentious learning; and the last, delicate learning; vain imaginations, vain altercations, and vain affectations; and with the last I will

begin.[1] Martin Luther, conducted (no doubt) by an higher Providence, but in discourse of reason finding what a province he had undertaken against the Bishop of Rome and the degenerate traditions of the church, and finding his own solitude, being no ways aided by the opinions of his own time, was enforced to awake all antiquity, and to call former times to his succors to make a party against the present time; so that the ancient authors, both in divinity and in humanity, which had long time slept in libraries, began generally to be read and revolved. This by consequence did draw on a necessity of a more exquisite travail in the languages original wherein those authors did write, for the better understanding of those authors and the better advantage of pressing and applying their words. And thereof grew again a delight in their manner of style and phrase, and an admiration of that kind of writing; which was much furthered and precipitated by the enmity and opposition that the propounders of those (primitive but seeming new) opinions had against the schoolmen; who were generally of the contrary part, and whose writings were altogether in a differing style and form; taking liberty to coin and frame new terms of art to express their own sense and to avoid circuit of speech, without regard to the pureness, pleasantness,

[1] The passage which follows is much curtailed in the translation; no doubt for the reason mentioned in note p. 109. All allusion to the "higher Providence," the "degenerate traditions" of the church, the study of the ancient authors, and the "primitive but seeming new opinions" is left out: and we are only told that this distemper of luxuriance of speech (though in former times it had been occasionally in request) began to prevail very much about the time of Luther; chiefly on account of the demand for fervour and efficacy of preaching, &c. The remarks on the style of the schoolmen, and the hatred which at that time began to be conceived against them are retained.

and (as I may call it) lawfulness of the phrase or word. And again, because the great labour then[1] was with the people, (of whom the Pharisees were wont to say, *Execrabilis ista turba, quæ non novit legem,*) [the wretched crowd that has not known the law,] for the winning and persuading of them, there grew of necessity in chief price and request eloquence and variety of discourse, as the fittest and forciblest access into the capacity of the vulgar sort. So that these four causes concurring, the admiration of ancient authors, the hate of the schoolmen, the exact study of languages, and the efficacy of preaching, did bring in an affectionate study of eloquence and copie of speech, which then began to flourish. This grew speedily to an excess; for men began to hunt more after words than matter; and more after the choiceness of the phrase, and the round and clean composition of the sentence, and the sweet falling of the clauses, and the varying and illustration of their works with tropes and figures, than after the weight of matter, worth of subject, soundness of argument, life of invention, or depth of judgment. Then grew the flowing and watery vein of Osorius, the Portugal bishop, to be in price. Then did Sturmius spend such infinite and curious pains upon Cicero the orator and Hermogenes the rhetorician, besides his own books of periods and imitation and the like. Then did Car of Cambridge, and Ascham, with their lectures and writings, almost deify Cicero and Demosthenes, and allure all young men that were studious unto that delicate and polished kind of learning. Then did Erasmus take occasion to make the scoffing echo; *Decem annos consumpsi in legendo Cicerone*, [I have spent

[1] So edd. 1629 and 1633. The original has *that then*.

ten years in reading Cicero:] and the echo answered in Greek, *one*, *Asine*. Then grew the learning of the schoolmen to be utterly despised as barbarous. In sum, the whole inclination and bent of those times was rather towards copie than weight.

Here therefore [is] the first distemper of learning, when men study words and not matter: whereof though I have represented an example of late times, yet it hath been and will be *secundum majus et minus* in all time. And how is it possible but this should have an operation to discredit learning, even with vulgar capacities, when they see learned men's works like the first letter of a patent or limned book; which though it hath large flourishes, yet it is but a letter? It seems to me that Pygmalion's frenzy is a good emblem or portraiture of this vanity: for words are but the images of matter; and except they have life of reason and invention, to fall in love with them is all one as to fall in love with a picture.

But yet notwithstanding it is a thing not hastily to be condemned, to clothe and adorn the obscurity even of philosophy itself with sensible and plausible elocution. For hereof we have great examples in Xenophon, Cicero, Seneca, Plutarch, and of Plato also in some degree; and hereof likewise there is great use; for surely to the severe inquisition of truth, and the deep progress into philosophy, it is some hinderance; because it is too early satisfactory to the mind of man, and quencheth the desire of further search, before we come to a just period; but then if a man be to have any use of such knowledge in civil occasions, of conference, counsel, persuasion, discourse, or the like; then shall he find it prepared to his hands in those authors which

write in that manner. But the excess of this is so justly contemptible, that as Hercules, when he saw the image of Adonis, Venus' minion, in a temple, said in disdain, *Nil sacri es*, [you are no divinity;] so there is none of Hercules' followers in learning, that is, the more severe and laborious sort of inquirers into truth, but will despise those delicacies and affectations, as indeed capable of no divineness.[1] And thus much of the first disease or distemper of learning.

The second, which followeth, is in nature worse than the former; for as substance of matter is better than beauty of words, so contrariwise vain matter is worse than vain words: wherein it seemeth the reprehension of St. Paul was not only proper for those times, but prophetical for the times following; and not only respective to divinity, but extensive to all knowledge: *Devita profanas vocum novitates, et oppositiones falsi nominis scientiæ:* [shun profane novelties of terms and oppositions of science falsely so called]. For he assigneth two marks and badges of suspected and falsified science; the one, the novelty and strangeness of terms; the other, the strictness of positions, which of necessity doth induce oppositions, and so questions and altercations. Surely, like as many substances in

[1] In the translation he mentions another vanity of style, though not of so bad a kind, as commonly succeeding the last in point of time, — a style in which all the study is to have the words pointed, the sentences concise, and the whole composition rather twisted into shape than allowed to flow (*oratio denique potius versa quam fusa*): a trick which has the effect of making everything seem more ingenious than it really is. Such a style (he says) is found largely in Seneca, less in Tacitus and the second Pliny, and has found favour of late with the ears of our own time; but though it is agreeable to ordinary understandings and so procures some respect for literature, yet to more exact judgments it is deservedly distasteful, and may be set down among the distempers of learning, being, as well as the other, a kind of hunting after words and verbal prettiness.

nature which are solid do putrefy and corrupt into worms, so it is the property of good and sound knowledge to putrefy and dissolve into a number of subtile, idle, unwholesome, and (as I may term them) vermiculate questions, which have indeed a kind of quickness and life of spirit, but no soundness of matter or goodness of quality. This kind of degenerate learning did chiefly reign amongst the schoolmen; who having sharp and strong wits, and abundance of leisure, and small variety of reading; but their wits being shut up in the cells of a few authors (chiefly Aristotle their dictator) as their persons were shut up in the cells of monasteries and colleges; and knowing little history, either of nature or time; did out of no great quantity of matter, and infinite agitation of wit, spin out unto us those laborious webs of learning which are extant in their books. For the wit and mind of man, if it work upon matter, which is the contemplation of the creatures of God, worketh according to the stuff, and is limited thereby; but if it work upon itself, as the spider worketh his web, then it is endless, and brings forth indeed cobwebs of learning, admirable for the fineness of thread and work, but of no substance or profit.

This same unprofitable subtility or curiosity is of two sorts; either in the subject itself that they handle, when it is a fruitless speculation or controversy, (whereof there are no small number both in divinity and philosophy,) or in the manner or method of handling of a knowledge; which amongst them was this; upon every particular position or assertion to frame objections, and to those objections, solutions; which solutions were for the most part not confutations, but distinctions:

whereas indeed the strength of all sciences is, as the strength of the old man's faggot, in the bond. For the harmony of a science, supporting each part the other, is and ought to be the true and brief confutation and suppression of all the smaller sort of objections; but on the other side, if you take out every axiom, as the sticks of the faggot, one by one, you may quarrel with them and bend them and break them at your pleasure: so that as was said of Seneca, *Verborum minutiis rerum frangit pondera*, [that he broke up the weight and mass of the matter by verbal points and niceties;] so a man may truly say of the schoolmen, *Quæstionum minutiis scientiarum frangunt soliditatem;* [they broke up the solidity and coherency of the sciences by the minuteness and nicety of their questions]. For were it not better for a man in a fair room to set up one great light, or branching candlestick of lights, than to go about with a small watch candle into every corner? And such is their method, that rests not so much upon evidence of truth proved by arguments, authorities, similitudes, examples, as upon particular confutations and solutions of every scruple, cavillation, and objection; breeding for the most part one question as fast it solveth another; even as in the former resemblance, when you carry the light into one corner, you darken the rest: so that the fable and fiction of Scylla seemeth to be a lively image of this kind of philosophy or knowledge; which was transformed into a comely virgin for the upper parts; but then *Candida succinctam latrantibus inguina monstris*, [there were barking monsters all about her loins:] so the generalities of the schoolmen are for a while good and proportionable; but then

when you descend into their distinctions and decisions, instead of a fruitful womb for the use and benefit of man's life, they end in monstrous altercations and barking questions. So as it is not possible but this quality of knowledge must fall under popular contempt, the people being apt to contemn truth upon occasion of controversies and altercations, and to think they are all out of their way which never meet: and when they see such digladiation about subtilities and matter of no use nor moment, they easily fall upon that judgment of Dionysius of Syracusa, *Verba ista sunt senum otiosorum*, [it is the talk of old men that have nothing to do].

Notwithstanding certain it is, that if those schoolmen to their great thirst of truth and unwearied travail of wit had joined variety and universality of reading and contemplation, they had proved excellent lights, to the great advancement of all learning and knowledge. But as they are, they are great undertakers indeed, and fierce with dark keeping;[1] but as in the inquiry of the divine truth their pride inclined to leave the oracle of God's word and to vanish in the mixture of their own inventions, so in the inquisition of nature they ever left the oracle of God's works and adored the deceiving and deformed images which the unequal mirror of their own minds or a few received authors or principles did represent unto them. And thus much for the second disease of learning.

[1] That is, fierce from being kept in the dark; the allusion being, as we see more clearly from a corresponding passage in an early Latin fragment [*ferocitatem autem et confidentiam quæ illos qui pauca norunt sequi solet, (ut animalia in tenebris educata,)* &c. — *Cog. de Sci. Hum.* 1st fragm. § 10.], to the effect of darkness on the temper of animals. — *R. L. E.* The rest of this sentence, from "but as they are" is omitted in the translation. See note p. 109.

For the third vice or disease of learning, which concerneth deceit or untruth, it is of all the rest the foulest; as that which doth destroy the essential form of knowledge, which is nothing but a representation of truth: for the truth of being and the truth of knowing are one, differing no more than the direct beam and the beam reflected. This vice therefore brancheth itself into two sorts; delight in deceiving, and aptness to be deceived; imposture and credulity; which, although they appear to be of a diverse nature, the one seeming to proceed of cunning, and the other of simplicity, yet certainly they do for the most part concur: for as the verse noteth,

Percontatorem fugito, nam garrulus idem est,

an inquisitive man is a prattler, so upon the like reason a credulous man is a deceiver: as we see it in fame, that he that will easily believe rumours will as easily augment rumours and add somewhat to them of his own; which Tacitus wisely noteth, when he saith, *Fingunt simul creduntque*, [as fast as they believe one tale they make another:[1]] so great an affinity hath fiction and belief.

This facility of credit, and accepting or admitting things weakly authorized or warranted, is of two kinds, according to the subject: for it is either a belief of history (as[2] the lawyers speak, matter of fact), or else of matter of art and opinion. As to the former, we see the experience and inconvenience of this er-

[1] I think this is the sense in which Bacon must have understood these words; but it is not the sense in which Tacitus employs them (An. v. 10.). He meant that they at once invented the tale and believed it: they "credited their own lie." — *J. S.*

[2] So the original. Edd. 1629 and 1633 have *or as*.

ror in ecclesiastical history; which hath too easily received and registered reports and narrations of miracles wrought by martyrs, hermits, or monks of the desert, and other holy men, and their relics, shrines, chapels, and images:[1] which though they had a passage for a time, by the ignorance of the people, the superstitious simplicity of some, and the politic toleration of others, holding them but as divine poesies; yet after a period of time, when the mist began to clear up, they grew to be esteemed but as old wives' fables, impostures of the clergy, illusions of spirits, and badges of antichrist, to the great scandal and detriment of religion.

So in natural history, we see there hath not been that choice and judgment used as ought to have been; as may appear in the writings of Plinius, Cardanus, Albertus, and divers of the Arabians; being fraught with much fabulous matter, a great part not only untried but notoriously untrue, to the great derogation of the credit of natural philosophy with the grave and sober kind of wits. Wherein the wisdom and integrity of Aristotle is worthy to be observed; that having made so diligent and exquisite a history of living creatures, hath mingled it sparingly with any vain or feigned matter; and yet on the other side[2] hath cast all prodigious narrations which he thought worthy the recording into one book; excellently discerning that matter of manifest truth, such whereupon observation and rule was to be built, was not to be mingled or weakened with matter of doubtful

[1] The rest of the paragraph is omitted in the translation. See note p. 109.

[2] *Sake* in the original, and also in edd. 1629 and 1633.

credit; and yet again that rarities and reports that seem uncredible are not to be suppressed or denied to the memory of men.

And as for the facility of credit which is yielded to arts and opinions, it is likewise of two kinds; either when too much belief is attributed to the arts themselves, or to certain authors in any art. The sciences themselves which have had better intelligence and confederacy with the imagination of man than with his reason, are three in number; Astrology, Natural Magic, and Alchemy; of which sciences nevertheless the ends or pretences are noble. For astrology pretendeth to discover that correspondence or concatenation which is between the superior globe and the inferior: natural magic pretendeth to call and reduce natural philosophy from variety of speculations to the magnitude of works: and alchemy pretendeth to make separation of all the unlike parts of bodies which in mixtures of nature are incorporate. But the derivations and prosecutions to these ends, both in the theories and in the practices, are full of error and vanity; which the great professors themselves have sought to veil over and conceal by enigmatical writings, and referring themselves to auricular traditions, and such other devices to save the credit of impostures. And yet surely to alchemy this right is due, that it may be compared to the husbandman whereof Æsop makes the fable, that when he died told his sons that he had left unto them gold buried under ground in his vineyard; and they digged over all the ground, and gold they found none, but by reason of their stirring and digging the mould about the roots of their vines, they had a great vintage the year following: so assuredly the search and stir to make

gold hath brought to light a great number of good and fruitful inventions and experiments, as well for the disclosing of nature as for the use of man's life.

And as for the overmuch credit that hath been given unto authors in sciences, in making them dictators, that their words should stand, and not counsels[1] to give advice; the damage is infinite that sciences have received thereby, as the principal cause that hath kept them low, at a stay without growth or advancement. For hence it hath comen that in arts mechanical the first deviser comes shortest, and time addeth and perfecteth; but in sciences the first author goeth furthest, and time leeseth and corrupteth. So we see, artillery, sailing, printing, and the like, were grossly managed at the first, and by time accommodated and refined; but contrariwise the philosophies and sciences of Aristotle, Plato, Democritus, Hippocrates, Euclides, Archimedes, of most vigour at the first, and by time degenerate and imbased; whereof the reason is no other, but that in the former many wits and industries have contributed in one; and in the later many wits and industries have been spent about the wit of some one, whom many times they have rather depraved than illustrated. For as water will not ascend higher than the level of the first spring-head from whence it descendeth, so knowledge derived from Aristotle, and exempted from liberty of examination, will not rise again higher than the knowledge of Aristotle. And therefore, although the position be good, *Oportet dis-*

[1] So the original. Edd. 1629 and 1633 have *consuls*. The translation has *dictatoria quadam potestate munivit ut edicant, non senatoria ut consulant.* Bacon probably wrote *counsellʳˢ*.

centem credere, [a man who is learning must be content to believe what he is told,] yet it must be coupled with this, *Oportet edoctum judicare*, [when he has learned it he must exercise his judgment and see whether it be worthy of belief;] for disciples do owe unto masters only a temporary belief and a suspension of their own judgment until they be fully instructed, and not an absolute resignation or perpetual captivity: and therefore to conclude this point, I will say no more but, so let great authors have their due, as time which is the author of authors be not deprived of his due, which is further and further to discover truth. Thus have I gone over these three diseases of learning; besides the which, there are some other rather peccant humours than formed diseases, which nevertheless are not so secret and intrinsic but that they fall under a popular observation and traducement, and therefore are not to be passed over.

The first of these is the extreme affecting of two extremities; the one Antiquity, the other Novelty: wherein it seemeth the children of time do take after the nature and malice of the father. For as he devoureth his children, so one of them seeketh to devour and suppress the other; while antiquity envieth there should be new additions, and novelty cannot be content to add but it must deface. Surely the advice of the prophet is the true direction in this matter, *State super vias antiquas, et videte quænam sit via recta et bona, et ambulate in ea:* [stand ye in the old ways, and see which is the good way, and walk therein]. Antiquity deserveth that reverence, that men should make a stand thereupon, and discover what is the best way; but when the discovery is well taken, then to make

progression. And to speak truly, *Antiquitas sæculi juventus mundi.* These times are the ancient times, when the world is ancient, and not those which we account ancient *ordine retrogrado*, by a computation backward from ourselves.

Another error, induced by the former, is a distrust that any thing should be now to be found out, which the world should have missed and passed over so long time; as if the same objection were to be made to time that Lucian maketh to Jupiter and other the heathen gods, of which he wondereth that they begot so many children in old time and begot none in his time, and asketh whether they were become septuagenary, or whether the law *Pappia*, made against old men's marriages, had restrained them. So it seemeth men doubt lest time is become past children and generation; wherein contrariwise we see commonly the levity and unconstancy of men's judgments, which, till a matter be done, wonder that it can be done; and as soon as it is done, wonder again that it was no sooner done; as we see in the expedition of Alexander into Asia, which at first was prejudged as a vast and impossible enterprise; and yet afterwards it pleaseth Livy to make no more of it than this, *Nil aliud quàm bene ausus vana contemnere:* [it was but taking courage to despise vain apprehensions]. And the same happened to Columbus in the western navigation. But in intellectual matters it is much more common; as may be seen in most of the propositions of Euclid, which till they be demonstrate, they seem strange to our assent; but being demonstrate, our mind accepteth of them by a kind of relation (as the lawyers speak) as if we had known them before.

Another error, that hath also some affinity with the former, is a conceit that of former opinions or sects, after variety and examination, the best hath still prevailed and suppressed the rest; so as if a man should begin the labour of a new search, he were but like to light upon somewhat formerly rejected, and by rejection brought into oblivion: as if the multitude, or the wisest for the multitude's sake, were not ready to give passage rather to that which is popular and superficial than to that which is substantial and profound; for the truth is, that time seemeth to be of the nature of a river or stream, which carrieth down to us that which is light and blown up, and sinketh and drowneth that which is weighty and solid.

Another error, of a diverse nature from all the former, is the over-early and peremptory reduction of knowledge into arts and methods; from which time commonly sciences receive small or no augmentation. But as young men, when they knit and shape perfectly, do seldom grow to a further stature; so knowledge, while it is in aphorisms and observations, it is in growth; but when it once is comprehended in exact methods, it may perchance be further polished and illustrate,[1] and accommodated for use and practice; but it increaseth no more in bulk and substance.

Another error, which doth succeed that which we last mentioned, is that after the distribution of particular arts and sciences, men have abandoned universality, or *philosophia prima;* which cannot but cease and stop all progression. For no perfect discovery can be made upon a flat or a level: neither is it possible to discover the more remote and deeper parts of any science, if

[1] So the original. Ed. 1633 has *illustrated.*

you stand but upon the level of the same science, and ascend not to a higher science.

Another error hath proceeded from too great a reverence, and a kind of adoration of the mind and understanding of man; by means whereof men have withdrawn themselves too much from the contemplation of nature and the observations of experience, and have tumbled up and down in their own reason and conceits. Upon these intellectualists, which are notwithstanding commonly taken for the most sublime and divine philosophers, Heraclitus gave a just censure, saying, *Men sought truth in their own little worlds, and not in the great and common world;* for they disdain to spell and so by degrees to read in the volume of God's works; and contrariwise by continual meditation and agitation of wit do urge and as it were invocate their own spirits to divine and give oracles unto them, whereby they are deservedly deluded.

Another error that hath some connection with this later is, that men have used to infect their meditations, opinions, and doctrines, with some conceits which they have most admired, or some sciences which they have most applied; and given all things else a tincture according to them, utterly untrue and unproper. So hath Plato intermingled his philosophy with theology, and Aristotle with logic, and the second school of Plato, Proclus and the rest, with the mathematics. For these were the arts which had a kind of primogeniture with them severally. So have the alchemists made a philosophy out of a few experiments of the furnace; and Gilbertus, our countryman, hath made a philosophy out of the observations of a loadstone. So Cicero, when, reciting the several opinions of the na-

ture of the soul, he found a musician that held the soul was but a harmony, saith pleasantly, *Hic ab arte sua non recessit, &c.* [he was constant to his own art]. But of these conceits Aristotle speaketh seriously and wisely, when he saith, *Qui respiciunt ad pauca de facili pronunciant:* [they who take only few points into account find it easy to pronounce judgment].

Another error is an impatience of doubt, and haste to assertion without due and mature suspension of judgment. For the two ways of contemplation are not unlike the two ways of action commonly spoken of by the ancients; the one plain and smooth in the beginning, and in the end impassable; the other rough and troublesome in the entrance, but after a while fair and even. So it is in contemplation; if a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties.

Another error is in the manner of the tradition and delivery of knowledge, which is for the most part magistral and peremptory, and not ingenuous and faithful; in a sort as may be soonest believed, and not easiliest examined. It is true that in compendious treatises for practice that form is not to be disallowed. But in the true handling of knowledge, men ought not to fall either on the one side into the vein of Velleius the Epicurean, *Nil tam metuens, quàm ne dubitare aliqua de re videretur*, [who feared nothing so much as the seeming to be in doubt about anything,] nor on the other side into Socrates his ironical doubting of all things; but to propound things sincerely, with more or less asseveration, as they stand in a man's own judgment proved more or less.

Other errors there are in the scope that men propound to themselves, whereunto they bend their endeavours; for whereas the more constant and devote[1] kind of professors of any science ought to propound to themselves to make some additions to their science, they convert their labours to aspire to certain second prizes; as to be a profound interpreter or commenter, to be a sharp champion or defender, to be a methodical compounder or abridger; and so the patrimony of knowledge cometh to be sometimes improved, but seldom augmented.

But the greatest error of all the rest is the mistaking or misplacing of the last or furthest end of knowledge. For men have entered into a desire of learning and knowledge, sometimes upon a natural curiosity and inquisitive appetite; sometimes to entertain their minds with variety and delight; sometimes for ornament and reputation; and sometimes to enable them to victory of wit and contradiction; and most times for lucre and profession; and seldom sincerely to give a true account of their gift of reason, to the benefit and use of men: as if there were sought in knowledge a couch, whereupon to rest a searching and restless spirit; or a terrace, for a wandering and variable mind to walk up and down with a fair prospect; or a tower of state, for a proud mind to raise itself upon; or a fort or commanding ground, for strife and contention; or a shop, for profit or sale; and not a rich storehouse, for the glory of the Creator and the relief of man's estate. But this is that which will indeed dignify and exalt knowledge, if contemplation and action may be more nearly and straitly conjoined and united together than

[1] So the original. Ed. 1633 has *devoute*.

they have been; a conjunction like unto that of the two highest planets, Saturn the planet of rest and contemplation, and Jupiter the planet of civil society and action. Howbeit, I do not mean, when I speak of use and action, that end before-mentioned of the applying of knowledge to lucre and profession: for I am not ignorant how much that diverteth and interrupteth the prosecution and advancement of knowledge; like unto the golden ball thrown before Atalanta, which while she goeth aside and stoopeth to take up, the race is hindered,

Declinat cursus, aurumque volubile tollit.

Neither is my meaning, as was spoken of Socrates, to call philosophy down from heaven to converse upon the earth; that is, to leave natural philosophy aside, and to apply knowledge only to manners and policy. But as both heaven and earth do conspire and contribute to the use and benefit of man, so the end ought to be, from both philosophies to separate and reject vain speculations and whatsoever is empty and void, and to preserve and augment whatsoever is solid and fruitful; that knowledge may not be as a curtesan, for pleasure and vanity only, or as a bond-woman, to acquire and gain to her master's use; but as a spouse, for generation, fruit, and comfort.

Thus have I described and opened, as by a kind of dissection, those peccant humours (the principal of them) which have[1] not only given impediment to the proficience of learning, but have given also occasion to the traducement thereof: wherein if I have been too plain, it must be remembered *Fidelia vulnera amantis, sed dolosa oscula malignantis:* [faithful are the wounds

[1] *hath* in all the old editions.

of a friend, but the kisses of an enemy are deceitful]. This I think I have gained, that I ought to be the better believed in that which I shall say pertaining to commendation, because I have proceeded so freely in that which concerneth censure. And yet I have no purpose to enter into a laudative of learning, or to make a hymn to the muses, (though I am of opinion that it is long since their rights were duly celebrated:) but my intent is, without varnish or amplification, justly to weigh the dignity of knowledge in the balance with other things, and to take the true value thereof by testimonies and arguments divine and human.

First therefore, let us seek the dignity of knowledge in the arch-type or first platform, which is in the attributes and acts of God, as far as they are revealed to man and may be observed with sobriety; wherein we may not seek it by the name of learning; for all learning is knowledge acquired, and all knowledge in God is original: and therefore we must look for it by another name, that of wisdom or sapience, as the Scriptures call it.

It is so then, that in the work of the creation we see a double emanation of virtue from God; the one referring more properly to power, the other to wisdom; the one expressed in making the subsistence of the matter, and the other in disposing the beauty of the form. This being supposed, it is to be observed, that for any thing which appeareth in the history of the creation, the confused mass and matter of heaven and earth was made in a moment, and the order and disposition of that chaos or mass was the work of six days; such a note of difference it pleased God to put upon the works of power and the works of wisdom;

wherewith concurreth, that in the former it is not set down that God said, *Let there be heaven and earth*, as it is set down of the works following; but actually, that God made heaven and earth: the one carrying the style of a manufacture, and the other of a law, decree, or counsel.

To proceed to that which is next in order, from God to spirits; we find, as far as credit is to be given to the celestial hierarchy of that supposed Dionysius the senator of Athens,[1] the first place or degree is given to the angels of love, which are termed Seraphim; the second to the angels of light, which are termed Cherubim; and the third and so following places to thrones, principalities, and the rest, which are all angels of power and ministry; so as the angels of knowledge and illumination are placed before the angels of office and domination.

To descend from spirits and intellectual forms to sensible and material forms; we read the first form that was created was light, which hath a relation and correspondence in nature and corporal things, to knowledge in spirits and incorporal things.

So in the distribution of days, we see the day wherein God did rest and contemplate his own works, was blessed above all the days wherein he did effect and accomplish them.

After the creation was finished, it is set down unto us that man was placed in the garden to work therein; which work so appointed to him could be no other than work of contemplation; that is, when the end of work

1 *quæ Dionysii Areopagitæ nomine evulgatur*, are the words of the translation: the insinuation implied in the word *supposed*, being withdrawn, or at least not so strongly expressed. See note p. 109.

is but for exercise and experiment, not for necessity; for there being then no reluctation of the creature, nor sweat of the brow, man's employment must of consequence have been matter of delight in the experiment, and not matter of labour for the use. Again, the first acts which man performed in Paradise consisted of the two summary parts of knowledge; the view of creatures, and the imposition of names. As for the knowledge which induced the fall, it was, as was touched before, not the natural knowledge of creatures, but the moral knowledge of good and evil; wherein the supposition was, that God's commandments or prohibitions were not the originals of good and evil, but that they had other beginnings, which man aspired to know, to the end to make a total defection from God, and to depend wholly upon himself.

To pass on: in the first event or occurrence after the fall of man, we see (as the Scriptures have infinite mysteries, not violating at all the truth of the story or letter,) an image of the two estates, the contemplative state and the active state, figured in the two persons of Abel and Cain, and in the two simplest and most primitive trades of life; that of the shepherd, (who, by reason of his leisure, rest in a place, and living in view of heaven, is a lively image of a contemplative life,) and that of the husbandman: where we see again the favour and election of God went to the shepherd, and not to the tiller of the ground.

So in the age before the flood, the holy records within those few memorials which are there entered and registered have vouchsafed to mention and honour the name of the inventors and authors of music and works in metal. In the age after the flood, the first

great judgment of God upon the ambition of man was the confusion of tongues; whereby the open trade and intercourse of learning and knowledge was chiefly imbarred.

To descend to Moses the lawgiver, and God's first pen: he is adorned by the Scriptures with this addition and commendation, that he was *seen in all the learning of the Egyptians;* which nation we know was one of the most ancient schools of the world: for so Plato brings in the Egyptian priest saying unto Solon: *You Grecians are ever children; you have no knowledge of antiquity, nor antiquity of knowledge.* Take a view of the ceremonial law of Moses; you shall find, besides the prefiguration of Christ, the badge or difference of the people of God, the exercise and impression of obedience, and other divine uses and fruits thereof, that some of the most learned Rabbins have travelled profitably and profoundly to observe, some of them a natural, some of them a moral, sense or reduction of many of the ceremonies and ordinances. As in the law of the leprosy, where it is said, *If the whiteness have overspread the flesh, the patient may pass abroad for clean; but if there be any whole flesh remaining, he is to be shut up for unclean;* one of them noteth a principle of nature, that putrefaction is more contagious before maturity than after: and another noteth a position of moral philosophy, that men abandoned to vice do not so much corrupt manners, as those that are half good and half evil. So in this and very many other places in that law, there is to be found, besides the theological sense, much aspersion of philosophy.

So likewise in that excellent book of Job, if it be

revolved with diligence, it will be found pregnant and swelling with natural philosophy; as for example, cosmography and the roundness of the world; *Qui extendit aquilonem super vacuum, et appendit terram super nihilum;* [who stretcheth out the north upon the empty space, and hangeth the earth upon nothing;] wherein the pensileness of the earth, the pole of the north, and the finiteness or convexity of heaven are manifestly touched. So again matter of astronomy; *Spiritus ejus ornavit cœlos, et obstetricante manu ejus eductus est Coluber tortuosus:* [by his spirit he hath garnished the heavens; his hand hath formed the crooked Serpent]. And in another place; *Nunquid conjungere valebis micantes stellas Pleiadas, aut gyrum Arcturi poteris dissipare?* [canst thou bring together the glittering stars of the Pleiades, or scatter the array of Arcturus?] where the fixing of the stars, ever standing at equal distance, is with great elegancy noted. And in another place, *Qui facit Arcturum, et Oriona, et Hyadas, et interiora Austri;* [which maketh Arcturus, Orion, and Hyades, and the secrets of the South;] where again he takes knowledge of the depression of the southern pole, calling it the secrets of the south, because the southern stars were in that climate unseen. Matter of generation; *Annon sicut lac mulsisti me, et sicut caseum coagulasti me?* &c. [hast thou not drawn me forth like milk, and curdled me like cheese?] Matter of minerals; *Habet argentum venarum suarum principia: et auro locus est in quo conflatur, ferrum de terra tollitur, et lapis solutus calore in æs vertitur:* [surely there is a vein for the silver, and a place for gold where they fine it. Iron is taken out of the earth,

and brass is molten out of the stone:] and so forwards in that chapter.

So likewise in the person of Salomon the king, we see the gift or endowment of wisdom and learning, both in Salomon's petition and in God's assent thereunto, preferred before all other terrene and temporal felicity. By virtue of which grant or donative of God, Salomon became enabled not only to write those excellent parables or aphorisms concerning divine and moral philosophy, but also to compile a natural history of all verdure,[1] from the cedar upon the mountain to the moss upon the wall, (which is but a rudiment between putrefaction and an herb,) and also of all things that breathe or move. Nay, the same Salomon the king, although he excelled in the glory of treasure and magnificent buildings, of shipping and navigation, of service and attendance, of fame and renown, and the like, yet he maketh no claim to any of those glories, but only to the glory of inquisition of truth; for so he saith expressly, *The glory of God is to conceal a thing, but the glory of the king is to find it out;* as if, according to the innocent play of children, the Divine Majesty took delight to hide his works, to the end to have them found out; and as if kings could not obtain a greater honour than to be God's playfellows in that game, considering the great commandment of wits and means, whereby nothing needeth to be hidden from them.

Neither did the dispensation of God vary in the times after our Saviour came into the world; for our Saviour himself did first shew his power to subdue ignorance, by his conference with the priests and doc-

[1] *verdor* in edd. 1605, 1629, 1633; which perhaps ought to be retained, as another form of the word rather than another way of spelling it.

tors of the law, before he shewed his power to subdue nature by his miracles. And the coming of the Holy Spirit was chiefly figured and expressed in the similitude and gift of tongues, which are but *vehicula scientiæ*, [carriers of knowledge].

So in the election of those instruments which it pleased God to use for the plantation of the faith, notwithstanding that at the first he did employ persons altogether unlearned otherwise than by inspiration, more evidently to declare his immediate working, and to abase all human wisdom or knowledge; yet nevertheless that counsel of his was no sooner performed, but in the next vicissitude and succession he did send his divine truth into the world waited on with other learnings as with servants or handmaids: for so we see St. Paul, who was only learned amongst the apostles, had his pen most used in the scriptures of the New Testament.

So again we find that many of the ancient bishops and fathers of the Church were excellently read and studied in all the learning of the heathen; insomuch that the edict of the emperor Julianus, (whereby it was interdicted unto Christians to be admitted into schools, lectures, or exercises of learning,) was esteemed and accounted a more pernicious engine and machination against the Christian faith, than were all the sanguinary prosecutions of his predecessors; neither could the emulation and jealousy of Gregory the first of that name, bishop of Rome, ever obtain the opinion of piety or devotion; but contrariwise received the censure of humour, malignity, and pusillanimity,[1] even

[1] This clause is omitted in the translation; and the words *cætera viri egregii* are introduced after the name of Gregory. See note p. 109.

amongst holy men; in that he designed to obliterate and extinguish the memory of heathen antiquity and authors. But contrariwise it was the Christian Church, which amidst the inundations of the Scythians on the one side from the north-west, and the Saracens from the east, did preserve in the sacred lap and bosom thereof the precious relics even of heathen learning, which otherwise had been extinguished as if no such thing had ever been.

And we see before our eyes, that in the age of ourselves and our fathers, when it pleased God to call the church of Rome to account for their degenerate manners and ceremonies, and sundry doctrines obnoxious and framed to uphold the same abuses; at one and the same time it was ordained by the Divine Providence that there should attend withal a renovation and new spring of all other knowledges:[1] and on the other side we see the Jesuits, who partly in themselves and partly by the emulation and provocation of their example, have much quickened and strengthened the state of learning, — we see (I say) what notable service and reparation they have done to the Roman see.

Wherefore to conclude this part, let it be observed that there be two principal duties and services, besides ornament and illustration, which philosophy and human learning do perform to faith and religion. The one, because they are an effectual inducement to the exaltation of the glory of God: For as the Psalms and other Scriptures do often invite us to consider and magnify the great and wonderful works of God, so if we should rest only in the contemplation of the exterior of them

[1] All this, from the beginning of the paragraph, is omitted in the translation. See note p. 109.

as they first offer themselves to our senses, we should do a like injury unto the majesty of God as if we should judge or construe of the store of some excellent jeweller by that only which is set out toward the street in his shop. The other, because they minister a singular help and preservative against unbelief and error: For our Saviour saith, *You err, not knowing the Scriptures, nor the power of God;* laying before us two books or volumes to study, if we will be secured from error; first the Scriptures, revealing the will of God, and then the creatures expressing his power; whereof the latter is a key unto the former; not only opening our understanding to conceive the true sense of the Scriptures, by the general notions of reason and rules of speech; but chiefly opening our belief, in drawing us into a due meditation of the omnipotency of God, which is chiefly signed and engraven upon his works. Thus much therefore for divine testimony and evidence concerning the true dignity and value of learning.

As for human proofs, it is so large a field, as in a discourse of this nature and brevity it is fit rather to use choice of those things which we shall produce, than to embrace the variety of them. First therefore, in the degrees of human honour amongst the heathen it was the highest, to obtain to a veneration and adoration as a God. This unto the Christians is as the forbidden fruit. But we speak now separately of human testimony: according to which that which the Grecians call *apotheosis*, and the Latins *relatio inter divos*, was the supreme honour which man could attribute unto man; specially when it was given, not by a formal decree or act of state, as it was used among the Roman emperors, but by an inward assent and be-

lief; which honour being so high, had also a degree or middle term; for there were reckoned above human honours, honours[1] heroical and divine; in the attribution and distribution of which honours we see antiquity made this difference: that whereas founders and uniters of states and cities, lawgivers, extirpers of tyrants, fathers of the people, and other eminent persons in civil merit, were honoured but with the titles of worthies or demi-gods; such as were Hercules, Theseus, Minos, Romulus, and the like; on the other side, such as were inventors and authors of new arts, endowments, and commodities towards man's life, were ever consecrated amongst the gods themselves; as was Ceres, Bacchus, Mercurius, Apollo, and others; and justly; for the merit of the former is confined within the circle of an age or a nation; and is like fruitful showers, which though they be profitable and good, yet serve but for that season, and for a latitude of ground where they fall; but the other is indeed like the benefits of heaven, which are permanent and universal. The former again is mixed with strife and perturbation; but the latter hath the true character of divine presence, coming[2] in *aura leni*, without noise or agitation.

Neither is certainly that other merit of learning, in repressing the inconveniences which grow from man to man, much inferior to the former, of relieving the necessities which arise from nature; which merit was lively set forth by the ancients in that feigned relation of Orpheus theatre; where all beasts and birds assembled, and forgetting their several appetites, some of

[1] *honour* in edd. 1605, 1629, 1633.

[2] *commonly* in edd. 1629 and 1633. In the original, *com-* ends a line and the rest of the word has accidentally dropped out.

prey, some of game, some of quarrel, stood all sociably together listening unto the airs and accords of the harp; the sound whereof no sooner ceased, or was drowned by some louder noise, but every beast returned to his own nature: wherein is aptly described the nature and condition of men; who are full of savage and unreclaimed desires, of profit, of lust, of revenge, which as long as they give ear to precepts, to laws, to religion, sweetly touched with eloquence and persuasion of books, of sermons, of harangues, so long is society and peace maintained; but if these instruments be silent, or that sedition and tumult make them not audible, all things dissolve into anarchy and confusion.

But this appeareth more manifestly, when kings themselves, or persons of authority under them, or other governors in commonwealths and popular estates, are endued with learning. For although he might be thought partial to his own profession, that said *Then should people and estates be happy, when either kings were philosophers, or philosophers kings;* yet so much is verified by experience, that under learned princes and governors there have been ever the best times: for howsoever kings may have their imperfections in their passions and customs, yet if they be illuminate by learning, they have those notions of religion, policy, and morality, which do preserve them and refrain them from all ruinous and peremptory errors and excesses; whispering evermore in their ears, when counsellors and servants stand mute and silent. And senators or counsellors likewise which be learned, do proceed upon more safe and substantial principles than counsellors which are only men of experience; the one sort keep-

ing dangers afar off, whereas the other discover them not till they come near hand, and then trust to the agility of their wit to ward or avoid them.

Which felicity of times under learned princes (to keep still the law of brevity, by using the most eminent and selected examples) doth best appear in the age which passed from the death of Domitianus the emperor until the reign of Commodus; comprehending a succession of six princes,[1] all learned or singular favourers and advancers of learning; which age, for temporal respects, was the most happy and flourishing that ever the Roman empire (which then was a model of the world) enjoyed: a matter revealed and prefigured unto Domitian in a dream the night before he was slain; for he thought there was grown behind upon his shoulders a neck and a head of gold, which came accordingly to pass in those golden times which succeeded: of which princes we will make some commemoration; wherein although the matter will be vulgar, and may be thought fitter for a declamation than agreeable to a treatise infolded as this is, yet because it is pertinent to the point in hand, *neque semper arcum tendit Apollo*, [and Apollo does not keep his bow always bent,] and to name them only were too naked and cursory, I will not omit it altogether.[2]

The first was Nerva; the excellent temper of whose government is by a glance in Cornelius Tacitus touched to the life: *Postquam divus Nerva res olim insociabiles miscuisset, imperium et libertatem:* [he united and reconciled two things which used not to go together —

[1] So edd. 1629 and 1633. The original has *sciences*.

[2] In the *De Augmentis* he merely says "*de quibus*," *i. e.* the golden times, "*sigillatim sed brevissime verba faciam*." And the next five paragraphs are condensed into one.

government and liberty].[1] And in token of his learning, the last act of his short reign left to memory was a missive to his adopted son Trajan, proceeding upon some inward discontent at the ingratitude of the times, comprehended in a verse of Homer's;

Telis, Phœbe, tuis lacrymas ulciscere nostras.
[O Phœbus, with thy shafts avenge these tears.]

Trajan, who succeeded, was for his person not learned: but if we will hearken to the speech of our Saviour, that saith, *He that receiveth a prophet in the name of a prophet, shall have a prophet's reward*, he deserveth to be placed amongst the most learned princes: for there was not a greater admirer of learning or benefactor of learning; a founder of famous libraries, a perpetual advancer of learned men to office, and a familiar converser with learned professors and preceptors, who were noted to have then most credit in court. On the other side, how much Trajan's virtue and government was admired and renowned, surely no testimony of grave and faithful history doth more lively set forth, than that legend tale of Gregorius Magnus, bishop of Rome, who was noted for the extreme envy he bare towards all heathen excellency: and yet he is reported, out of the love and estimation of Trajan's moral virtues, to have made unto God passionate and fervent prayers for the delivery of his soul out of hell; and to have obtained it, with a caveat

[1] Agric. 3.: *Quanquam . . . . Nerva Cæsar res olim dissociabiles miscuerit, principatum ac libertatem.* This quotation is omitted in the translation, where nothing is said of the character of Nerva's government except that he was *clementissimus imperator, quique, si nihil aliud, orbi Trajanum dedit;* from which it would almost seem that Bacon thought it hardly deserved the praise which Tacitus bestows upon it. In evidence of his *learning* he adds that he was the friend, and as it were the disciple, of Apollonius the Pythagorean.

that he should make no more such petitions.[1] In this prince's time also the persecutions against the Christians received intermission, upon the certificate of Plinius Secundus, a man of excellent learning and by Trajan advanced.

Adrian, his successor, was the most curious man that lived, and the most universal inquirer; insomuch as it was noted for an error in his mind, that he desired to comprehend all things, and not to reserve himself for the worthiest things; falling into the like humour that was long before noted in Philip of Macedon, who when he would needs over-rule and put down an excellent musician in an argument touching music, was well answered by him again, *God forbid, Sir*, (saith he,) *that your fortune should be so bad, as to know these things better than I.*[2] It pleased God likewise to use the curiosity of this emperor as an inducement to the peace of his church in those days. For having Christ in veneration, not as a God or Saviour, but as a wonder or novelty, and having his picture in his gallery

[1] To this story Dante alludes in the tenth canto of *Purgatory;* taking it apparently from the life of Gregory by Paul the Deacon. It seems first to have been mentioned by John Damascene in his discourse "De iis qui in fide dormierunt;" from whom St. Thomas Aquinas quotes it in his *Supplementary Questions*, 71. 5. The hymn sung in the fourteenth century in the Cathedral of Mantua on St. Paul's day, is another curious instance of the appreciation of Heathen worth in the middle ages. It is there said of St. Paul,

Ad Maronis mausoleum
Ductus fudit super eum
Pise rorem lacrymæ;
Quem te, inquit, reddidissem
Si te vivum invenissem
Poetarum maxime!

See Schœll's *Histoire de la Littérature Romaine.* — *R. L. E.* This whole passage is omitted in the translation.

[2] Plutarch, Apoph.

matched with Appollonius (with whom in his vain imagination he thought he had some conformity), yet it served the turn to allay the bitter hatred of those times against the Christian name; so as the church had peace during his time.[1] And for his government civil, although he did not attain to that of Trajan's[2] in glory of arms or perfection of justice, yet in deserving of the weal of the subject he did exceed him. For Trajan erected many famous monuments and buildings; insomuch as Constantine the Great in emulation was wont to call him *Parietaria*, wall flower, because his name was upon so many walls: but his buildings and works were more of glory and triumph than use and necessity. But Adrian spent his whole reign, which was peaceable, in a perambulation or survey of the Roman empire; giving order and making assignation where he went for re-edifying of cities, towns, and forts decayed, and for cutting of rivers and streams, and for making bridges and passages, and for policing[3] of cities and commonalties with new ordinances and constitutions, and granting new franchises and incorporations; so that his whole time was a very restoration of all the lapses and decays of former times.

Antoninus[4] Pius, who succeeded him, was a prince excellently learned; and had the patient and subtile wit of a schoolman; insomuch as in common speech (which leaves no virtue untaxed) he was called *cymini*

[1] There seems here a confusion of two stories. It was Alexander Severus who according to Lampridius had a picture of our Saviour "matched with Apollonius" and with some others. Hadrian however did honour Apollonius and is said to have thought of dedicating a temple to Christ, which, if I remember rightly, Alexander actually did. — *R. L. E.*

[2] So in all three editions. Qy. Trajan?

[3] *pollicing*, edd. 1605 and 1629. *pollishing*, ed. 1633.

[4] *Antonius*, edd. 1605, 1629, 1633.

sector, a carver or divider of cummin seed, which is one of the least seeds; such a patience he had and settled spirit to enter into the least and most exact differences of causes; a fruit no doubt of the exceeding tranquillity and serenity of his mind; which being no ways charged or incumbered either with fears, remorses, or scruples, but having been noted for a man of the purest goodness, without all fiction or affectation, that hath reigned or lived, made his mind continually present and entire. He likewise approached a degree nearer unto Christianity, and became, as Agrippa said unto St. Paul, *half a Christian;* holding their religion and law in good opinion, and not only ceasing persecution, but giving way to the advancement of Christians.

There succeeded him the first *Divi fratres*, the two adoptive brethren, Lucius Commodus Verus, son to Ælius Verus, who delighted much in the softer kind of learning, and was wont to call the poet Martial his Virgil; and Marcus Aurelius Antoninus; whereof the later, who obscured his colleague[1] and survived him long, was named the Philosopher: who as he excelled all the rest in learning, so he excelled them likewise in perfection of all royal virtues; insomuch as Julianus the emperor, in his book intitled *Cæsares*, being as a pasquil or satire to deride all his predecessors, feigned that they were all invited to a banquet of the gods, and Silenus the jester sat at the nether end of the table and bestowed a scoff on every one as they came in; but when Marcus Philosophus came in, Silenus was gravelled and

[1] In the translation he says that Lucius though not so good as his brother was better than most of the other emperors. (*Fratri quidem bonitate cedens, reliquos imperatores plurimos superans.*)

out of countenance, not knowing where to carp at him; save at the last he gave a glance at his patience towards his wife. And the virtue of this prince, continued with that of his predecessor, made the name of Antoninus so sacred in the world, that though it were extremely dishonoured in Commodus, Caracalla, and Heliogabalus, who all bare the name, yet when Alexander Severus refused the name because he was a stranger to the family, the Senate with one acclamation said, *Quomodo Augustus, sic et Antoninus:* [let the name of Antoninus be as the name of Augustus:] in such renown and veneration was the name of these two princes in those days, that they would have it as a perpetual addition in all the emperors' style. In this emperor's time also the church for the most part was in peace; so as in this sequence of six princes we do see the blessed effects of learning in sovereignty, painted forth in the greatest table of the world.

But for a tablet or picture of smaller volume, (not presuming to speak of your Majesty that liveth,) in my judgment the most excellent is that of queen Elizabeth, your immediate predecessor in this part of Britain; a prince that, if Plutarch were now alive to write lives [1] by parallels, would trouble him, I think, to find for her a parallel amongst women. This lady was endued with learning in her sex singular, and rare [2] even amongst masculine princes; whether we speak of learning of [3] language or of science; modern or ancient; divinity or humanity. And unto the very last

[1] *lynes*, ed. 1605 and 1629. *lines* ed. 1633.

[2] So edd. 1629 and 1633. Ed. 1605 has *grace*.

[3] Edd. 1629 and 1633 have *or;* with a semicolon after *learning*, where the original has a comma; the omission of which makes the meaning and construction clear.

year of her life she accustomed to appoint set hours for reading, scarcely any young student in an university more daily or more duly. As for her[1] government, I assure myself I shall not exceed if I do affirm that this part of the island never had forty-five years of better times; and yet not through the calmness of the season, but through the wisdom of her regiment. For if there be considered of the one side, the truth of religion established; the constant peace and security; the good administration of justice; the temperate use of the prerogative, not slackened, nor much strained; the flourishing state of learning, sortable to so excellent a patroness; the convenient estate of wealth and means, both of crown and subject; the habit of obedience, and the moderation of discontents; and there be considered on the other side, the differences of religion, the troubles of neighbour countries, the ambition of Spain, and opposition of Rome; and then that she was solitary and of herself: these things I say considered, as I could not have chosen an instance so recent and so proper, so I suppose I could not have chosen one more remarkable or eminent, to the purpose now in hand; which is concerning the conjunction of learning in the prince with felicity in the people.[2]

Neither hath learning an influence and operation only upon civil merit and moral virtue, and the arts or temperature of peace and peaceable government; but likewise it hath no less power and efficacy in

[1] So edd. 1629 and 1633. The original has *the*.

[2] This paragraph is entirely omitted in the *De Augmentis*; no doubt as one which would not be allowed at Rome and might lead to the proscription of the book. See note p. 109.

enablement towards martial and military virtue and prowess; as may be notably represented in the examples of Alexander the Great and Cæsar the Dictator, mentioned before, but now in fit place to be resumed; of whose virtues and acts in war there needs no note or recital, having been the wonders of time in that kind; but of their affections towards learning, and perfections in learning, it is pertinent to say somewhat.

Alexander was bred and taught under Aristotle the great philosopher, who dedicated divers of his books of philosophy unto him. He was attended with Callisthenes and divers other learned persons, that followed him in camp, throughout his journeys and conquests. What price and estimation he had learning in doth notably appear in these three particulars: first, in the envy he used to express that he bare towards Achilles, in this that he had so good a trumpet of his praises as Homer's verses; secondly, in the judgment or solution he gave touching that precious cabinet of Darius, which was found among his jewels, whereof question was made what thing was worthy to be put into it, and he gave his opinion for Homer's works; thirdly, in his letter to Aristotle, after he had set forth his books of nature, wherein he expostulateth with him for publishing the secrets or mysteries of philosophy, and gave him to understand that himself esteemed it more to excel other men in learning and knowledge than in power and empire. And what use he had of learning doth appear, or rather shine, in all his speeches and answers, being full of science and use of science, and that in all variety.

And herein again it may seem a thing scholastical,

and somewhat idle, to recite things that every man knoweth; but yet since the argument I handle leadeth me thereunto, I am glad that men shall perceive I am as willing to flatter (if they will so call it) an Alexander or a Cæsar or an Antoninus, that are dead many hundred years since, as any that now liveth: for it is the displaying of the glory of learning in sovereignty that I propound to myself, and not an humour of declaiming in any man's praises.[1] Observe then the speech he used of Diogenes, and see if it tend not to the true state of one of the greatest questions of moral philosophy; whether the enjoying of outward things or the contemning of them be the greatest happiness; for when he saw Diogenes so perfectly contented with so little, he said to those that mocked at his condition, *Were I not Alexander, I would wish to be Diogenes.* But Seneca inverteth it, and saith, *Plus erat quod hic nollet accipere, quàm quod ille posset dare.* There were more things which Diogenes would have refused, than those were which Alexander could have given or enjoyed.

Observe again that speech which was usual with him, *That he felt his mortality chiefly in two things, sleep and lust;* and see if it were not a speech extracted out of the depth of natural philosophy, and liker to have comen out of the mouth of Aristotle or Democritus than from Alexander.[2]

See again that speech of humanity and poesy; when

[1] All this from the beginning of the paragraph is omitted in the translation.

[2] *cum tam indigentia tam redundantia naturæ, per illa duo designata, mortis sin tanquam arrhabones;* the two opposite imperfections of nature, deficiency and superfluity, exhaustion and incontinence, being as it were earnests of mortality.

upon the bleeding of his wounds, he called unto him one of his flatterers that was wont to ascribe to him divine honour, and said, *Look, this is very blood; this is not such a liquor as Homer speaketh of, which ran from Venus' hand when it was pierced by Diomedes.*

See likewise his readiness in reprehension of logic, in the speech he used to Cassander upon a complaint that was made against his father Antipater: for when Alexander happed to say, *Do you think these men would have come from so far to complain, except they had just cause of grief?* and Cassander answered, *Yea, that was the matter, because they thought they should not be disproved;* said Alexander laughing, *See the subtilties of Aristotle, to take a matter both ways*, pro et contra, &c.

But note again how well he could use the same art which he reprehended, to serve his own humour, when bearing a secret grudge to Callisthenes because he was against the new ceremony of his adoration, feasting one night where the same Callisthenes was at the table, it was moved by some after supper, for entertainment sake, that Callisthenes who was an eloquent man might speak of some theme or purpose at his own choice; which Callisthenes did; choosing the praise of the Macedonian nation for his discourse, and performing the same with so good manner as the hearers were much ravished; whereupon Alexander, nothing pleased, said, *It was easy to be eloquent upon so good a subject:* but saith he, *Turn your style, and let us hear what you can say against us:* which Callisthenes presently undertook, and did with that sting and life, that Alexander interrupted him, and said, *The goodness of the cause made him eloquent before, and despite made him eloquent then again.*

Consider further, for tropes of rhetoric, that excellent use of a metaphor or translation, wherewith he taxed Antipater, who was an imperious and tyrannous governor: for when one of Antipater's friends commended him to Alexander for his moderation, that he did not degenerate, as his other lieutenants did, into the Persian pride, in use of purple, but kept the ancient habit of Macedon, of black; *True*, (saith Alexander,) *but Antipater is all purple within.* Or that other, when Parmenio came to him in the plain of Arbella, and shewed him the innumerable multitude of his enemies, specially as they appeared by the infinite number of lights, as it had been a new firmament of stars, and thereupon advised him to assail them by night: whereupon he answered, *That he would not steal the victory.*

For matter of policy, weigh that significant distinction, so much in all ages embraced, that he made between his two friends Hephæstion and Craterus, when he said, *That the one loved Alexander, and the other loved the king;* describing the principal difference of princes' best servants, that some in affection love their person, and others in duty love their crown.

Weigh also that excellent taxation of an error ordinary with counsellors of princes, that they counsel their masters according to the model of their own mind and fortune, and not of their masters; when upon Darius' great offers Parmenio had said, *Surely I would accept these offers, were I as Alexander;* saith Alexander, *So would I, were I as Parmenio.*

Lastly, weigh that quick and acute reply which he made when he gave so large gifts to his friends and servants, and was asked what he did reserve for him-

self, and he answered, *Hope;* weigh, I say, whether he had not cast up his account aright, because *hope* must be the portion of all that resolve upon great enterprises. For this was Cæsar's portion when he went first into Gaul, his estate being then utterly overthrown with largesses. And this was likewise the portion of that noble prince, howsoever transported with ambition, Henry duke of Guise, of whom it was usually said, that he was the greatest usurer in France, because he had turned all his estate into obligations.

To conclude therefore: as certain critics are used to say hyperbolically, *That if all sciences were lost, they might be found in Virgil;* so certainly this may be said truly, there are the prints and footsteps of learning in those few speeches which are reported of this prince: the admiration of whom, when I consider him not as Alexander the Great, but as Aristotle's scholar, hath carried me too far.

As for Julius Cæsar, the excellency of his learning needeth not to be argued from his education, or his company, or his speeches; but in a further degree doth declare itself in his writings and works; whereof some are extant and permanent, and some unfortunately perished. For first, we see there is left unto us that excellent history of his own wars, which he intitled only a Commentary, wherein all succeeding times have admired the solid weight of matter, and the real passages and lively images of actions and persons, expressed in the greatest propriety of words and perspicuity of narration that ever was; which that it was not the effect of a natural gift, but of learning and precept, is well witnessed by that work of his intitled

De Analogia, being a grammatical philosophy, wherein he did labour to make this same *vox ad placitum* to become *vox ad licitum*, and to reduce custom of speech to congruity of speech; and took as it were the picture of words from the life of reason.[1]

So we receive from him, as a monument both of his power and learning, the then reformed computation of the year; well expressing, that he took it to be as great a glory to himself to observe and know the law of the heavens as to give law to men upon the earth.

So likewise in that book of his *Anti-Cato*, it may easily appear that he did aspire as well to victory of wit as victory of war; undertaking therein a conflict against the greatest champion with the pen that then lived, Cicero the orator.

So again in his book of *Apophthegms* which he collected, we see that he esteemed it more honour to make himself but a pair of tables to take the wise and pithy words of others, than to have every word of his own to be made an apophthegm or an oracle; as vain princes, by custom of flattery, pretend to do. And yet if I should enumerate divers of his speeches, as I did those of Alexander, they are truly such as Salomon noteth, when he saith, *Verba sapientum tanquam aculei, et tanquam clavi in altum defixi:* [the words of the wise are as goads, and as nails fixed deep in:] whereof I will only recite three, not so delectable for elegancy, but admirable for vigour and efficacy.

[1] This passage is translated without addition or alteration. But Bacon seems to have changed his opinion afterwards upon the point in question. For in the sixth book of the *De Augmentis*, c. i., he intimates a suspicion that Cæsar's book was not a grammatical philosophy, but only a set of precepts for the formation of a pure, perfect, and unaffected style. See Vol. II. p. 414.

As first, it is reason he be thought a master of words, that could with one word appease a mutiny in his army; which was thus. The Romans, when their generals did speak to their army, did use the word *Milites;* but when the magistrates spake to the people, they did use the word *Quirites.* The soldiers were in tumult, and seditiously prayed to be cashiered; not that they so meant, but by expostulation thereof to draw Cæsar to other conditions; wherein he being resolute not to give way, after some silence, he began his speech, *Ego, Quirites;* which did admit them already cashiered; wherewith they were so surprised, crossed, and confused, as they would not suffer him to go on in his speech, but relinquished their demands, and made it their suit to be again called by the name of *Milites.*

The second speech was thus: Cæsar did extremely affect the name of king; and some were set on, as he passed by, in popular acclamation to salute him king; whereupon, finding the cry weak and poor, he put it off thus in a kind of jest, as if they had mistaken his surname; *Non Rex sum, sed Cæsar:* [I am not King, but Cæsar:] a speech, that if it be searched, the life and fulness of it can scarce be expressed: for first it was a refusal of the name, but yet not serious: again it did signify an infinite confidence and magnanimity, as if he presumed Cæsar was the greater title; as by his worthiness it is come to pass till this day: but chiefly it was a speech of great allurement towards his own purpose; as if the state did strive with him but for a name, whereof mean families were vested; for Rex was a surname with the Romans, as well as King is with us.

The last speech which I will mention, was used to Metellus; when Cæsar, after war declared, did possess himself of the city of Rome; at which time entering into the inner treasury to take the money there accumulate, Metellus being tribune forbade him: whereto Cæsar said, *That if he did not desist, he would lay him dead in the place;* and presently taking himself up, he added, *Young man, it is harder for me to speak it than to do it. Adolescens, durius est mihi hoc dicere quàm facere.* A speech compounded of the greatest terror and greatest clemency that could proceed out of the mouth of man.

But to return and conclude with him: it is evident himself knew well his own perfection in learning, and took it upon him; as appeared when upon occasion that some spake what a strange resolution it was in Lucius Sylla to resign his dictature, he scoffing at him, to his own advantage, answered, *That Sylla could not skill of letters, and therefore knew not how to dictate.*

And here it were fit to leave this point touching the concurrence of military virtue and learning; (for what example would come with any grace after those two of Alexander and Cæsar?) were it not in regard of the rareness of circumstance that I find in one other particular, as that which did so suddenly pass from extreme scorn to extreme wonder; and it is of Xenophon the philosopher, who went from Socrates' school into Asia, in the expedition of Cyrus the younger against king Artaxerxes. This Xenophon at that time was very young, and never had seen the wars before; neither had any command in the army, but only followed the war as a voluntary, for the love and conversation of Proxenus his friend. He was present when

Falinus came in message from the great king to the Grecians, after that Cyrus was slain in the field, and they a handful of men left to themselves in the midst of the king's territories, cut off from their country by many navigable rivers, and many hundred miles. The message imported that they should deliver up their arms, and submit themselves to the king's mercy. To which message before answer was made, divers of the army conferred familiarly with Falinus; and amongst the rest Xenophon happened to say, *Why Falinus, we have now but these two things left, our arms and our virtue; and if we yield up our arms, how shall we make use of our virtue?* Whereto Falinus smiling on him, said, *If I be not deceived, young gentleman, you are an Athenian; and I believe you study philosophy, and it is pretty that you say; but you are much abused if you think your virtue can withstand the king's power.* Here was the scorn; the wonder followed: which was, that this young scholar or philosopher, after all the captains were murdered in parley by treason, conducted those ten thousand foot through the heart of all the king's high countries from Babylon to Græcia in safety, in despite of all the king's forces, to the astonishment of the world, and the encouragement of the Grecians in time succeeding to make invasion upon the kings of Persia; as was after purposed by Jason the Thessalian, attempted by Agesilaus the Spartan, and achieved by Alexander the Macedonian; all upon the ground of the act of that young scholar.

To proceed now from imperial and military virtue to moral and private virtue: first, it is an assured truth which is contained in the verses,

> Scilicet ingenuas didicisse fideliter artes
> Emollit mores, nec sinit esse feros;

[a true proficiency in liberal learning softens and humanises the manners]. It taketh away the wildness and barbarism and fierceness of men's minds: but indeed the accent had need be upon *fideliter:* [it must be a *true* proficiency:] for a little superficial learning[1] doth rather work a contrary effect. It taketh away all levity, temerity, and insolency, by copious suggestion of all doubts and difficulties, and acquainting the mind to balance reasons on both sides, and to turn back the first offers and conceits of the mind, and to accept of nothing but examined and tried. It taketh away vain admiration of any thing, which is the root of all weakness. For all things are admired, either because they are new, or because they are great. For novelty, no man that wadeth in learning or contemplation throughly, but will find that printed in his heart *Nil novi super terram:* [there is nothing new under the sun]. Neither can any man marvel at the play of puppets, that goeth behind the curtain and adviseth well of the motion. And for magnitude, as Alexander the Great after that he was used to great armies and the great conquests of the spacious provinces in Asia, when he received letters out of Greece of some fights and services there, which were commonly for a passage or a fort or some walled town at the most, he said, *It seemed to him that he was advertised of the battles of the frogs and the mice, that the old tales went of:* so certainly if a man meditate much upon the universal frame of nature, the earth with men upon it (the divineness of souls except) will not seem much other than an ant-hill, whereas some ants carry corn, and some carry their young, and some go empty, and

[1] *tumultuaria cognitio.*

all to and fro a little heap of dust. It taketh away or mitigateth fear of death or adverse fortune; which is one of the greatest impediments of virtue and imperfections of manners. For if a man's mind be deeply seasoned with the consideration of the mortality and corruptible nature of things, he will easily concur with Epictetus, who went forth one day and saw a woman weeping for her pitcher of earth that was broken, and went forth the next day and saw a woman weeping for her son that was dead; and thereupon said, *Heri vidi fragilem frangi, hodie vidi mortalem mori:* [yesterday I saw a brittle thing broken, to-day a mortal dead]. And therefore Virgil did excellently and profoundly couple the knowledge of causes and the conquest of all fears together, as *concomitantia.*

> Felix qui potuit rerum cognoscere causas,
> Quique metus omnes et inexorabile fatum
> Subjecit pedibus, strepitumque Acherontis avari.
>
> [Happy the man who doth the causes know
> Of all that is: serene he stands, above
> All fears; above the inexorable Fate,
> And that insatiate gulph that roars below.]

It were too long to go over the particular remedies which learning doth minister to all the diseases of the mind; sometimes purging the ill humours, sometimes opening the obstructions, sometimes helping digestion, sometimes increasing appetite, sometimes healing the wounds and exulcerations thereof, and the like; and therefore I will conclude with that which hath *rationem totius;* which is, that it disposeth the constitution of the mind not to be fixed or settled in the defects thereof, but still to be capable and susceptible of growth and reformation. For the unlearned man knows not what it is to descend into himself or to call

himself to account, nor the pleasure of that *suavissima vita, indies sentire se fieri meliorem*, [to feel himself each day a better man than he was the day before]. The good parts he hath he will learn to shew to the full and use them dexterously, but not much to increase them: the faults he hath he will learn how to hide and colour them, but not much to amend them; like an ill mower, that mows on still and never whets his scythe: whereas with the learned man it fares otherwise, that he doth ever intermix the correction and amendment of his mind with the use and employment thereof. Nay further, in general and in sum, certain it is that *veritas* and *bonitas* differ but as the seal and the print; for truth prints goodness, and they be the clouds of error which descend in the storms of passions and perturbations.

From moral virtue let us pass on to matter of power and commandment, and consider whether in right reason there be any comparable with that wherewith knowledge investeth and crowneth man's nature. We see the dignity of the commandment is according to the dignity of the commanded: to have commandment over beasts, as herdsmen have, is a thing contemptible; to have commandment over children, as school-masters have, is a matter of small honour; to have commandment over galley-slaves is a disparagement rather than an honour. Neither is the commandment of tyrants much better, over people which have put off the generosity of their minds: and therefore it was ever holden that honours in free monarchies and commonwealths had a sweetness more than in tyrannies; because the commandment extendeth more over the wills of men, and not only over their deeds and services. And therefore

when Virgil putteth himself forth to attribute to Augustus Cæsar the best of human honours, he doth it in these words:

victorque volentes
Per populos dat jura, viamque affectat Olympo:

[Moving in conquest onward, at his will
To willing peoples he gives laws, and shapes
Through worthiest deeds on earth his course to Heaven.]

But yet the commandment of knowledge is yet higher than the commandment over the will; for it is a commandment over the reason, belief, and understanding of man, which is the highest part of the mind, and giveth law to the will itself. For there is no power on earth which setteth up a throne or chair of estate in the spirits and souls of men, and in their cogitations, imaginations, opinions, and beliefs, but knowledge and learning. And therefore we see the detestable and extreme pleasure that arch-heretics and false prophets and impostors are transported with, when they once find in themselves that they have a superiority in the faith and conscience of men; so great, that if they have once tasted of it, it is seldom seen that any torture or persecution can make them relinquish or abandon it. But as this is that which the author of the Revelation calleth the depth or profoundness of Satan; so by argument of contraries, the just and lawful sovereignty over men's understanding, by force [1] of truth rightly interpreted, is that which approacheth nearest to the similitude of the divine rule.

As for fortune and advancement, the beneficence of learning is not so confined to give fortune only to states and commonwealths, as it doth not likewise give fortune to particular persons. For it was well

[1] So edd. 1629 and 1633. The original has *face*.

noted long ago, that Homer hath given more men their livings than either Sylla or Cæsar or Augustus ever did, notwithstanding their great largesses and donatives and distributions of lands to so many legions. And no doubt it is hard to say whether arms or learning have advanced greater numbers. And in case of sovereignty, we see that if arms or descent have carried away the kingdom, yet learning hath carried the priesthood, which ever hath been in some competition with empire.

Again, for the pleasure and delight of knowledge and learning, it far surpasseth all other in nature: for shall the pleasures of the affections so exceed the senses, as much as the obtaining of desire or victory exceedeth a song or a dinner; and must not of consequence the pleasures of the intellect or understanding exceed the pleasures of the affections? We see in all other pleasures there is satiety, and after they be used, their verdure [1] departeth; which sheweth well they be but deceits of pleasure, and not pleasures; and that it was the novelty which pleased, and not the quality. And therefore we see that voluptuous men turn friars, and ambitious princes turn melancholy. But of knowledge there is no satiety, but satisfaction and appetite are perpetually interchangeable; and therefore appeareth to be good in itself simply, without fallacy or accident. Neither is that pleasure of small efficacy and contentment to the mind of man, which the poet Lucretius describeth elegantly,

Suave mari magno, turbantibus æquora ventis, &c.

[1] *verdour* in the original and also in edd. 1629 and 1633. See p. 141.

It is a view of delight (saith he) *to stand or walk upon the shore side, and to see a ship tossed with tempest upon the sea; or to be in a fortified tower, and to see two battles join upon a plain. But it is a pleasure incomparable, for the mind of man to be settled, landed, and fortified in the certainty of truth; and from thence to descry and behold the errors, perturbations, labours, and wanderings up and down of other men.*

Lastly, leaving the vulgar arguments, that by learning man excelleth man in that wherein man excelleth beasts; that by learning man ascendeth to the heavens and their motions, where in body he cannot come; and the like; let us conclude with the dignity and excellency of knowledge and learning in that whereunto man's nature doth most aspire; which is immortality or continuance; for to this tendeth generation, and raising of houses and families; to this buildings, foundations, and monuments; to this tendeth the desire of memory, fame, and celebration; and in effect, the strength of all other human desires. We see then how far the monuments of wit and learning are more durable than the monuments of power or of the hands. For have not the verses of Homer continued twenty-five hundred years or more, without the loss of a syllable or letter; during which time infinite palaces, temples, castles, cities, have been decayed and demolished? It is not possible to have the true pictures or statuaes of Cyrus, Alexander, Cæsar, no nor of the kings or great personages of much later years; for the originals cannot last, and the copies cannot but leese of the life and truth. But the images of men's wits and knowledges remain in books, exempted

from the wrong of time and capable of perpetual renovation. Neither are they fitly to be called images, because they generate still, and cast their seeds in the minds of others, provoking and causing infinite actions and opinions in succeeding ages. So that if the invention of the ship was thought so noble, which carrieth riches and commodities from place to place, and consociateth the most remote regions in participation of their fruits, how much more are letters to be magnified, which as ships pass through the vast seas of time, and make ages so distant to participate of the wisdom, illuminations, and inventions, the one of the other? Nay further, we see some of the philosophers which were least divine and most immersed in the senses and denied generally the immortality of the soul, yet came to this point, that whatsoever motions the spirit of man could act and perform without the organs of the body they thought might remain after death; which were only those of the understanding, and not of the affection; so immortal and incorruptible a thing did knowledge seem unto them to be. But we, that know by divine revelation that not only the understanding but the affections purified, not only the spirit but the body changed, shall be advanced to immortality, do disclaim in [1] these rudiments of the senses. But it must be remembered both in this last point, and so it may likewise be needful in other places, that in probation of the dignity of knowledge or learning I did in the beginning separate divine testimony from human; which method I have pursued, and so handled them both apart.

[1] So all three editions. The translation has *nos autem . . . . conculcantes hæc rudimenta atque offucias sensuum, novimus* &c.

Nevertheless I do not pretend, and I know it will be impossible for me by any pleading of mine, to reverse the judgment, either of Æsop's cock, that preferred the barleycorn before the gem; or of Midas, that being chosen judge between Apollo president of the Muses, and Pan god of the flocks, judged for plenty; or of Paris, that judged for beauty and love against wisdom and power; or of Agrippina, *occidat matrem, modo imperet*, [let him kill his mother so he be emperor,] that preferred empire with condition never so detestable; or of Ulysses, *qui vetulam prætulit immortalitati*, [that preferred an old woman to an immortality,] being a figure of those which prefer custom and habit before all excellency; or of a number of the like popular judgments. For these things continue as they have been: but so will that also continue whereupon learning hath ever relied, and which faileth not: *Justificata est sapientia a filiis suis:* [wisdom is justified of her children].

THE

SECOND BOOK OF FRANCIS BACON

OF THE

PROFICIENCE AND ADVANCEMENT OF LEARNING

DIVINE AND HUMAN.

TO THE KING.

It might seem to have more convenience, though it come often otherwise to pass, (excellent King,) that those which are fruitful in their generations, and have in themselves the foresight of immortality in their descendants, should likewise be more careful of the good estate of future times; unto which they know they must transmit and commend over their dearest pledges. Queen Elizabeth was a sojourner in the world in respect of her unmarried life; and was a blessing to her own times; and yet so as the impression of her good government, besides her happy memory, is not without some effect which doth survive her.[1] But to your Majesty, whom God hath already blessed with so much royal issue, worthy to continue and represent you for ever, and whose youthful and fruitful bed

[1] This last clause is omitted in the translation. See note p. 109.

doth yet promise many the like renovations, it is proper and agreeable to be conversant not only in the transitory parts of good government, but in those acts also which are in their nature permanent and perpetual. Amongst the which (if affection do not transport me) there is not any more worthy than the further endowment of the world with sound and fruitful knowledge: for why should a few received authors stand up like Hercules' Columns, beyond which there should be no sailing or discovering, since we have so bright and benign a star as your Majesty to conduct and prosper us? To return therefore where we left, it remaineth to consider of what kind those acts are, which have been undertaken and performed by kings and others for the increase and advancement of learning: wherein I purpose to speak actively without digressing or dilating.

Let this ground therefore be laid, that all works are overcomen by amplitude of reward, by soundness of direction, and by the conjunction of labours. The first multiplieth endeavour, the second preventeth error, and the third supplieth the frailty of man. But the principal of these is direction: for *claudus in via antevertit cursorem extra viam;* [the cripple that keeps the way gets to the end of the journey sooner than the runner who goes aside;] and Salomon excellently setteth it down, *If the iron be not sharp, it requireth more strength; but wisdom is that which prevaileth;* signifying that the invention or election of the mean is more effectual than any inforcement or accumulation of endeavours. This I am induced to speak, for that (not derogating from the noble intention of any that have been deservers towards the

state of learning) I do observe nevertheless that their works and acts are rather matters of magnificence and memory than of progression and proficience, and tend rather to augment the mass of learning in the multitude of learned men than to rectify or raise the sciences themselves.

The works or acts of merit towards learning are conversant about three objects; the places of learning, the books of learning, and the persons of the learned. For as water, whether it be the dew of heaven or the springs of the earth, doth scatter and leese itself in the ground, except it be collected into some receptacle, where it may by union comfort and sustain itself; and for that cause the industry of man hath made and framed spring-heads, conduits, cisterns, and pools, which men have accustomed likewise to beautify and adorn with accomplishments of magnificence and state, as well as of use and necessity; so this excellent liquor of knowledge, whether it descend from divine inspiration or spring from human sense, would soon perish and vanish to oblivion, if it were not preserved in books, traditions, conferences, and places appointed, as universities, colleges, and schools, for the receipt and comforting of the same.

The works which concern the seats and places of learning are four; foundations and buildings, endowments with revenues, endowments with franchises and privileges, institutions and ordinances for government; all tending to quietness and privateness of life, and discharge of cares and troubles; much like the stations which Virgil prescribeth for the hiving of bees:

> Principio sedes apibus statioque petenda,
> Quo neque sit ventis aditus, &c.

[First for thy bees a quiet station find,
And lodge them under covert of the wind.[1]]

The works touching books are two: first libraries, which are as the shrines where all the relics of the ancient saints, full of true virtue and that without delusion or imposture,[2] are preserved and reposed; secondly, new editions of authors, with more correct impressions, more faithful translations, more profitable glosses, more diligent annotations, and the like.

The works pertaining to the persons of learned men (besides the advancement and countenancing of them in general) are two: the reward and designation of readers in sciences already extant and invented; and the reward and designation of writers and inquirers concerning any parts of learning not sufficiently laboured and prosecuted.

These are summarily the works and acts, wherein the merits of many excellent princes and other worthy personages have been conversant. As for any particular commemorations, I call to mind what Cicero said, when he gave general thanks; *Difficile non aliquem, ingratum quenquam prœterire:* [it were hard to remember all, and yet ungracious to forget any]. Let us rather, according to the Scriptures, look unto that part of the race which is before us than look back to that which is already attained.

First therefore, amongst so many great foundations of colleges in Europe, I find it strange that they are all dedicated to professions, and none left free to arts and sciences at large. For if men judge that learning should be referred to action, they judge well;

[1] Dryden.

[2] This clause is omitted in the *De Augmentis*. See note p. 109.

but in this they fall into the error described in the ancient fable; in which the other parts of the body did suppose the stomach had been idle, because it neither performed the office of motion, as the limbs do, nor of sense, as the head doth; but yet notwithstanding it is the stomach that digesteth and distributeth to all the rest. So if any man think philosophy and universality to be idle studies, he doth not consider that all professions are from thence served and supplied. And this I take to be a great cause that hath hindered the progression of learning, because these fundamental knowledges have been studied but in passage. For if you will have a tree bear more fruit than it hath used to do, it is not any thing you can do to the boughs, but it is the stirring of the earth and putting new mould about the roots that must work it. Neither is it to be forgotten that this dedicating of foundations and dotations to professory learning hath not only had a malign aspect and influence upon the growth of sciences, but hath also been prejudicial to states and governments. For hence it proceedeth that princes find a solitude in regard of able men to serve them in causes of estate,. because there is no education collegiate which is free; where such as were so disposed might give themselves to histories, modern languages, books of policy and civil discourse, and other the like enablements unto service of estate.

And because founders of colleges do plant and founders of lectures do water, it followeth well in order to speak of the defect which is in public lectures; namely, in the smallness and meanness of the salary or reward which in most places is assigned

unto them;[1] whether they be lectures of arts, or of professions. For it is necessary to the progression of sciences that readers[2] be of the most able and sufficient men; as those which are ordained for generating and propagating of sciences, and not for transitory use. This cannot be, except their condition and endowment be such as may content the ablest man to appropriate his whole labour and continue his whole age in that function and attendance; and therefore must have a proportion answerable to that mediocrity or competency of advancement which may be expected from a profession or the practice of a profession. So as, if you will have sciences flourish, you must observe David's military law, which was, *That those which staid with the carriage should have equal part with those which were in the action;* else will the carriages be ill attended: So readers in sciences are indeed the guardians of the stores and provisions of sciences whence men in active courses are furnished, and therefore ought to have equal entertainment with them; otherwise if the fathers in sciences be of the weakest sort or be ill-maintained,

Et patrum invalidi referent jejunia nati:

[the poor keeping of the parents will appear in the poor constitution of the offspring.]

Another defect I note, wherein I shall need some alchemist to help me, who call upon men to sell their books and to build furnaces; quitting and forsaking Minerva and the Muses as barren virgins, and relying upon Vulcan. But certain it is that unto the deep,

[1] In the *De Augmentis* he adds *præsertim apud nos.*
[2] *i. e.* lecturers.

fruitful, and operative study of many sciences, specially natural philosophy and physic,[1] books be not only the instrumentals; wherein also the beneficence of men hath not been altogether wanting; for we see spheres, globes, astrolabes, maps, and the like, have been provided as appurtenances to astronomy and cosmography, as well as books: we see likewise that some places instituted for physic have annexed the commodity of gardens for simples of all sorts, and do likewise command the use of dead bodies for anatomies. But these do respect but a few things. In general, there will hardly be any main proficience in the disclosing of nature, except there be some allowance for expenses about experiments; whether they be experiments appertaining to Vulcanus or Dædalus, furnace or engine, or any other kind; and therefore as secretaries and spials of princes and states bring in bills for intelligence, so you must allow the spials and intelligencers of nature to bring in their bills, or else you shall be ill advertised.

And if Alexander made such a liberal assignation to Aristotle of treasure for the allowance of hunters, fowlers, fishers, and the like, that he might compile an History of nature, much better do they deserve it that travail[2] in Arts of nature.[3]

Another defect which I note, is an intermission or neglect in those which are governors in universities of

[1] *i. e.* medicine.

[2] *travailes* in the original, and also in edd. 1629 and 1633.

[3] *i. e.* in working upon and altering nature by art. The meaning is expressed more clearly in the translation: *majus quiddam debetur iis qui non in saltibus naturæ pererrant, sed in labyrinthis artium viam aperiunt:* the compiler of a history of nature being likened to a wanderer through the woods, the "travailer in arts of nature" to one who makes his way through a labyrinth.

consultation, and in princes or superior persons of visitation; to enter into account and consideration, whether the readings, exercises, and other customs appertaining unto learning, anciently begun and since continued, be well instituted or no; and thereupon to ground an amendment or reformation in that which shall be found inconvenient. For it is one of your Majesty's own most wise and princely maxims, *that in all usages and precedents, the times be considered wherein they first began; which if they were weak or ignorant, it derogateth from the authority of the usage, and leaveth it for suspect.* And therefore in as much as most of the usages and orders of the universities were derived from more obscure times, it is the more requisite they be re-examined. In this kind I will give an instance or two for example sake, of things that are the most obvious and familiar. The one is a matter which though it be ancient and general, yet I hold to be an error; which is, that scholars in universities come too soon and too unripe to logic and rhetoric; arts fitter for graduates than children and novices: for these two, rightly taken, are the gravest of sciences; being the arts of arts, the one for judgment, the other for ornament; and they be the rules and directions how to set forth and dispose matter; and therefore for minds empty and unfraught with matter, and which have not gathered that which Cicero calleth *sylva* and *supellex*, stuff and variety, to begin with those arts, (as if one should learn to weigh or to measure or to paint the wind,) doth work but this effect, that the wisdom of those arts, which is great and universal, is almost made contemptible, and is degenerate into childish sophistry and ridiculous affectation. And further, the untimely learning of them hath

drawn on by consequence the superficial and unprofitable teaching and writing of them, as fitteth indeed to the capacity of children. Another is a lack I find in the exercises used in the universities, which do make too great a divorce between invention and memory; for their speeches are either premeditate *in verbis conceptis*, where nothing is left to invention, or merely *extemporal*, where little is left to memory: whereas in life and action there is least use of either of these, but rather of intermixtures of premeditation and invention, notes and memory; so as the exercise fitteth not the practice, nor the image the life; and it is ever a true rule in exercises, that they be framed as near as may be to the life of practice; for otherwise they do pervert the motions and faculties of the mind, and not prepare them. The truth whereof is not obscure, when scholars come to the practices of professions, or other actions of civil life; which when they set into, this want is soon found by themselves, and sooner by others. But this part, touching the amendment of the institutions and orders of universities, I will conclude with the clause of Cæsar's letter to Oppius and Balbus, *Hoc quemadmodum fieri possit, nonnulla mihi in mentem veniunt, et multa reperiri possunt; de iis rebus rogo vos ut cogitationem suscipiatis:* [how this may be done, some things occur to me and more may be thought of. I would have you take these matters into consideration.]

Another defect which I note, ascendeth a little higher than the precedent. For as the proficience of learning consisteth much in the orders and institutions of universities in the same states and kingdoms, so it would be yet more advanced, if there were more intelligence mutual between the universities of Europe than now there is.

We see there be many orders and foundations, which though they be divided under several sovereignties and territories, yet they take themselves to have a kind of contract, fraternity, and correspondence one with the other, insomuch as they have Provincials and Generals.[1] And surely as nature createth brotherhood in families, and arts mechanical contract brotherhoods in communalties, and the anointment of God superinduceth a brotherhood in kings and bishops; so in like manner there cannot but be a fraternity in learning and illumination, relating to that paternity which is attributed to God, who is called the Father of illuminations or lights.

The last defect which I will note is, that there hath not been, or very rarely been, any public designation of writers or inquirers concerning such parts of knowledge as may appear not to have been already sufficiently laboured or undertaken; unto which point it is an inducement, to enter into a view and examination what parts of learning have been prosecuted, and what omitted; for the opinion of plenty is amongst the causes of want, and the great quantity of books maketh a shew rather of superfluity than lack; which surcharge nevertheless is not to be remedied by making no more books, but by making more good books, which, as the serpent of Moses,[2] might devour the serpents of the enchanters.

The removing of all the defects formerly enumerate, except the last, and of the active part also of the last, (which is the designation of writers,) are *opera basilica*, [works for a king;] towards which the endeavours of

[1] *Præfectos* (*alios provinciales, alios generales*) *quibus omnes parent.* — De Aug.

[2] Not Moses, but Aaron. Ex. i. 17. — *R. L. E.*

a private man may be but as an image in a cross-way, that may point at the way but cannot go it. But the inducing part of the latter (which is the survey of learning) may be set forward by private travel. Wherefore I will now attempt to make a general and faithful perambulation of learning, with an inquiry what parts thereof lie fresh and waste, and not improved and converted by the industry of man; to the end that such a plot made and recorded to memory may both minister light to any public designation, and also serve to excite voluntary endeavours; wherein nevertheless my purpose is at this time to note only omissions and deficiencies, and not to made any redargution of errors or incomplete prosecutions;[1] for it is one thing to set forth what ground lieth unmanured, and another thing to correct ill husbandry in that which is manured.[2]

In the handling and undertaking of which work I am not ignorant what it is that I do now move and attempt, nor insensible of mine own weakness to sustain my purpose; but my hope is that if my extreme love to learning carry me too far, I may obtain the excuse of affection; for that *it is not granted to man to love and to be wise.* But I know well I can use no other liberty of judgment than I must leave to others; and I for my part shall be indifferently glad either to perform myself or accept from another that duty of humanity, *Nam qui erranti comiter monstrat viam*, &c. [to put the wanderer in the right way]. I do foresee likewise that of those things which I shall enter and register as deficiencies and omissions, many will conceive and censure that some of them are already done and extant; others to be but curiosities, and things of no great use;

[1] *infelicitates.* — De Aug.

[2] *i. e.* cultivated.

and others to be of too great difficulty and almost impossibility to be compassed and effected. But for the two first, I refer myself to the particulars. For the last, touching impossibility, I take it those things are to be held possible which may be done by some person, though not by every one; and which may be done by many, though not by any one; and which may be done in succession of ages, though not within the hourglass of one man's life; and which may be done by public designation, though not by private endeavour. But notwithstanding, if any man will take to himself rather that of Salomon, *Dicit piger, Leo est in via*, [the slothful man saith there is a lion in the path,] than that of Virgil, *Possunt quia posse videntur*, [they find it possible because they think it possible,] I shall be content that my labours be esteemed but as the better sort of wishes; for as it asketh some knowledge to demand a question not impertinent, so it requireth some sense to make a wish not absurd.

¶ [1] The parts of human learning have reference to the three parts of Man's Understanding, which is the seat of learning: History to his Memory, Poesy to his Imagination, and Philosophy to his Reason. Divine learning receiveth the same distribution; for the spirit of man is the same, though the revelation of oracle

[1] De Aug. ii. 1. The substance of the following paragraph will be found considerably expanded in the first chapter of the *Descriptio Globi Intellectualis*, and set forth much more clearly and orderly in the first chapter of the second book of the *De Augmentis;* which begins here; the previous observations being introductory. As it may be convenient to the reader to have the means of referring at once to the corresponding passages of the more finished work, I shall mark with a ¶ the places where the several chapters begin; adding (where the case admits of it) some notice, more or less complete, of the differences between the two. See Preface, p. 82.

and sense be diverse: so as theology consisteth also of History of the Church; of Parables, which is divine poesy; and of holy Doctrine or precept. For as for that part which seemeth supernumerary, which is Prophecy, it is but divine history; which hath that prerogative over human, as the narration may be before the fact as well as after.

¶ [1] History is Natural, Civil, Ecclesiastical, and Literary; whereof the three first I allow as extant, the fourth I note as deficient. For no man hath propounded to himself the general state of learning to be described and represented from age to age, as many have done the works of nature and the state civil and ecclesiastical; without which the history of the world seemeth to me to be as the statua of Polyphemus with his eye out; that part being wanting which doth most shew the spirit and life of the person. And yet I am not ignorant that in divers particular sciences, as of the jurisconsults, the mathematicians, the rhetoricians, the philosophers, there are set down some small memorials of the schools, authors, and books; and so likewise some barren relations touching the invention of arts or usages. But a just story of learning, containing the antiquities and originals of knowledges, and their sects; their inventions, their traditions; their diverse administrations and managings; their flourishings, their oppositions, decays, depressions, oblivions, removes; with the causes and

Historia Literarum.

[1] De Aug. ii. 4. In the translation the divisions are altered: History being divided into Natural and Civil, — History of Nature and History of Man; and Literary and Ecclesiastical History being considered as separate departments of the latter. See chap. 2. paragraph 1. This alteration induces an alteration in the order of treatment; the precedence being given to the History of Nature, which is the subject of the second chapter.

occasions of them, and all other events concerning learning, throughout the ages of the world;[1] I may truly affirm to be wanting. The use and end of which work I do not so much design for curiosity, or satisfaction of those that are the lovers of learning; but chiefly for a more serious and grave purpose, which is this in few words, that it will make learned men wise in the use and administration of learning. For it is not St. Augustine's nor St. Ambrose works that will make so wise a divine, as ecclesiastical history throughly read and observed; and the same reason is of learning.

¶ [2] History of Nature is of three sorts; of nature in course, of nature erring or varying, and of nature altered or wrought; that is, history of Creatures, history of Marvels, and history of Arts.[3] The first of these no doubt is extant, and that in good perfection; the two later are handled so weakly and unprofitably, as I am moved to note them as deficient. For I find

Historia Naturæ Erratis.

no sufficient or competent collection of the works of nature which have a digression and deflexion from the ordinary course of generations, productions, and motions; whether they be singularities of place and region, or the strange events of time and chance, or the effects of yet unknown proprieties, or the instances of exception to general kinds. It is true, I find a number of books of fabulous experiments and secrets, and frivolous impostures for pleasure and strangeness. But a substantial and severe collection

[1] The description of the required history is set forth much more particularly in the translation; and the whole paragraph rewritten and enlarged.

[2] De Aug. ii. 2.

[3] This division is retained in the translation, but the exposition of it is extended into a long paragraph.

of the Heteroclites or Irregulars of nature, well examined and described, I find not; specially not with due rejection of fables and popular errors: for as things now are, if an untruth in nature be once on foot, what by reason of the neglect of examination and countenance of antiquity, and what by reason of the use of the opinion in similitudes and ornaments of speech, it is never called down.

The use of this work, honoured with a precedent in Aristotle,[1] is nothing less than to give contentment to the appetite of curious and vain wits, as the manner of Mirabilaries is to do; but for two reasons, both of great weight; the one to correct the partiality of axioms and opinions, which are commonly framed only upon common and familiar examples; the other because from the wonders of nature is the nearest intelligence and passage towards the wonders of art: for it is no more but by following and as it were hounding Nature in her wanderings, to be able to lead her afterwards to the same place again. Neither am I of opinion, in this History of Marvels, that superstitious narrations of sorceries, witchcrafts, dreams, divinations, and the like, where there is an assurance and clear evidence of the fact, be altogether excluded. For it is not yet known in what cases, and how far, effects attributed to superstition do participate of natural causes; and therefore howsoever the practice of such things is to be condemned, yet from the speculation and consideration of them light may be taken, not only for the discerning of the offences, but for the further disclosing of nature.

[1] De Miris Auscultationibus; which is now however generally admitted to be not Aristotle's. — *R. L. E.* See De Aug. ii. 2. Mr. Blakesley is of opinion that the nucleus of it was probably Aristotle's, but that it has been added to by subsequent writers.

Neither ought a man to make scruple of entering into these things for inquisition of truth, as your Majesty hath shewed in your own example; who with the two clear eyes of religion and natural philosophy have looked deeply and wisely into these shadows, and yet proved yourself to be of the nature of the sun, which passeth through pollutions and itself remains as pure as before. But this I hold fit, that these narrations which have mixture with superstition be sorted by themselves, and not to be mingled with the narrations which are merely and sincerely natural. But as for the narrations touching the prodigies and miracles of religions, they are either not true or not natural; and therefore impertinent for the story of nature.

Historia Mechanica.

For History of Nature Wrought or Mechanical, I find some collections made of agriculture, and likewise of manual arts; but commonly with a rejection of experiments familiar and vulgar. For it is esteemed a kind of dishonour unto learning to descend to inquiry or meditation upon matters mechanical, except they be such as may be thought secrets, rarities, and special subtilties; which humour of vain and supercilious arrogancy is justly derided in Plato; where he brings in Hippias, a vaunting sophist, disputing with Socrates, a true and unfeigned inquisitor of truth; where the subject being touching beauty, Socrates, after his wandering manner of inductions, put first an example of a fair virgin, and then of a fair horse, and then of a fair pot well glazed, whereat Hippias was offended, and said, *More than for courtesy's sake, he did think much to dispute with any that did allege such base and sordid instances:* whereunto Socrates answereth, *You have reason, and it becomes you well, being a man*

so trim in your vestiments, &c. and so goeth on in an irony. But the truth is, they be not the highest instances that give the securest information; as may be well expressed in the tale so common of the philosopher, that while he gazed upwards to the stars fell into the water; for if he had looked down he might have seen the stars in the water, but looking aloft he could not see the water in the stars. So it cometh often to pass that mean and small things discover great better than great can discover the small; and therefore Aristotle noteth well, *that the nature of every thing is best seen in his smallest portions*, and for that cause he inquireth the nature of a commonwealth, first in a family, and the simple conjugations of man and wife, parent and child, master and servant, which are in every cottage: even so likewise the nature of this great city of the world and the policy thereof must be first sought in mean concordances and small portions. So we see how that secret of nature, of the turning of iron touched with the loadstone towards the north, was found out in needles of iron, not in bars of iron.

But if my judgment be of any weight, the use of History Mechanical is of all others the most radical and fundamental towards natural philosophy; such natural philosophy as shall not vanish in the fume of subtile, sublime, or delectable speculation, but such as shall be operative to the endowment and benefit of man's life: for it will not only minister and suggest for the present many ingenious practices in all trades, by a connexion and transferring of the observations of one art to the use of another, when the experiences of several mysteries shall fall under the consideration of

one man's mind; but further it will give a more true and real illumination concerning causes and axioms than is hitherto attained. For like as a man's disposition is never well known till he be crossed, nor Proteus ever changed shapes till he was straitened and held fast; so the passages and variations of nature cannot appear so fully in the liberty of nature, as in the trials and vexations of art.[1]

¶ [2] For Civil History, it is of three kinds;[3] not unfitly to be compared with the three kinds of pictures or images. For of pictures or images, we see some are unfinished, some are perfect,[4] and some are defaced. So of histories we may find three kinds, Memorials, Perfect Histories, and Antiquities; for Memorials are history unfinished, or the first or rough draughts of history, and Antiquities are history defaced, or some remnants of history which have casually escaped the shipwrack of time.

Memorials, or Preparatory History, are of two sorts; whereof the one may be termed Commentaries, and the other Registers. Commentaries are they which

[1] A paragraph is added in the translation, to say that not the mechanical arts only, but also the practical part of the liberal sciences, as well as many crafts which have not grown into formal arts (such, he means, as hunting, fishing, &c.), are to be included in the History Mechanical.

[2] De Aug. ii. 6. The 3rd chapter, concerning the two uses of natural history, and the 5th concerning the dignity and difficulty of civil history, have nothing corresponding to them here.

[3] "I am not altogether ignorant in the laws of history and of the kinds. The same hath been taught by many, but by no man better and with greater brevity than by that excellent learned gentleman Sir Francis Bacon." — *Ralegh:* Preface to the *History of the World.* — *R. L. E.*

[4] *parfite* in the original; the form in which the word was commonly written in Bacon's time.

set down a continuance of the naked events and actions, without the motives or designs, the counsels, the speeches, the pretexts, the occasions, and other passages of action: for this is the true nature of a Commentary; though Cæsar, in modesty mixed with greatness, did for his pleasure apply the name of a Commentary to the best history of the world. Registers are collections of public acts, as decrees of council, judicial proceedings, declarations and letters of estate, orations, and the like, without a perfect continuance or contexture of the thread of the narration.

Antiquities or Remnants of History are, as was said, *tanquam tabula naufragii*, [like the planks of a shipwreck;] when industrious persons by an exact and scrupulous diligence and observation, out of monuments, names, words, proverbs, traditions, private records and evidences, fragments of stories, passages of books that concern not story, and the like, do save and recover somewhat from the deluge of time.

In these kinds of unperfect histories I do assign no deficience, for they are *tanquam imperfecte mista*, [things imperfectly compounded;] and therefore any deficience in them is but their nature. As for the corruptions and moths of history, which are Epitomes, the use of them deserveth to be banished, as all men of sound judgment have confessed; as those that have fretted and corroded the sound bodies of many excellent histories, and wrought them into base and unprofitable dregs.

¶ [1] History which may be called Just and Perfect History is of three kinds, according to the object which it propoundeth, or pretendeth to represent: for it either

[1] De Aug. ii. 7.

representeth a Time, or a Person, or an Action. The first we call Chronicles, the second Lives, and the third Narrations or Relations. Of these, although the first be the most complete and absolute kind of history and hath most estimation and glory, yet the second excelleth it in profit and use, and the third in verity and sincerity. For History of Times representeth the magnitude of actions and the public faces and deportments of persons, and passeth over in silence the smaller passages and motions of men and matters. But such being the workmanship of God as he doth hang the greatest weight upon the smallest wires, *maxima e minimis suspendens*, it comes therefore to pass, that such histories do rather set forth the pomp of business than the true and inward resorts thereof.[1] But Lives, if they be well written,[2] propounding to themselves a person to represent in whom actions both greater and smaller, public and private, have a commixture, must of necessity contain a more true, native, and lively representation. So again Narrations and Relations of actions, as the War of Peloponnesus, the Expedition of Cyrus Minor, the Conspiracy of Catiline, cannot but be more purely and exactly true than Histories of Times, because they may choose an argument comprehensible within the notice and instructions of the writer: whereas he that undertaketh the story of a time, especially of any length, cannot but meet with

[1] And even (he adds in the translation) where they attempt to give the counsels and motives, yet still out of the same love of dignity and greatness they introduce into men's actions more gravity and wisdom than they really have; insomuch that you may find a truer picture of human life in some satires than in such histories.

[2] *i. e.* not mere eulogies. The translation adds: "neque enim de elogiis et hujusmodi commemorationibus jejunis loquimur."

many blanks and spaces which he must be forced to fill up out of his own wit and conjecture.[1]

For the History of Times, (I mean of civil history) the providence of God hath made the distribution: for it hath pleased God to ordain and illustrate two exemplar states of the world, for arms, learning, moral virtue, policy, and laws; the state of Græcia, and the state of Rome; the histories whereof occupying the middle part of time, have more ancient to them, histories which may by one common name be termed the Antiquities of the World; and after them, histories which may be likewise called by the name of Modern History.[2]

Now to speak of the deficiencies. As to the Heathen Antiquities of the world, it is in vain to note them for deficient. Deficient they are no doubt, consisting most of fables and fragments; but the deficience cannot be holpen; for antiquity is like fame, *caput inter nubila condit*, her head is muffled from our sight. For the History of the Exemplar States, it is extant in good perfection. Not but I could wish there were a perfect course of history for Græcia from Theseus to Philopœmen, (what time the

[1] On the other hand it must be confessed (he reminds us in the translation, — I give only the general import of the passage, which is of considerable length) that relations of this kind, especially if published near the time to which they refer, are in one respect of all narratives the most to be suspected; being commonly written either in favour or in spite. But then again it seldom happens that they are all on one side, so that the extreme views of each party being represented, an honest and judicious historian may, when the violence of faction has cooled down with time, find the truth among them.

[2] This paragraph and the next are omitted in the translation, and their place supplied by a general complaint that very many particular histories are still wanting; much to the injury in honour and reputation of the kingdoms and commonwealths which they concern.

affairs of Græcia drowned and extinguished in the affairs of Rome;) and for Rome from Romulus to Justinianus, who may be truly said to be *ultimus Romanorum*. In which sequences of story the text of Thucydides and Xenophon in the one, and the texts of Livius, Polybius, Sallustius, Cæsar, Appianus, Tacitus, Herodianus in the other, to be kept entire without any diminution at all, and only to be supplied and continued. But this is matter of magnificence, rather to be commended than required: and we speak now of parts of learning supplemental, and not of supererogation.

But for Modern Histories, whereof there are some few very worthy, but the greater part beneath mediocrity, leaving the care of foreign stories to foreign states, because I will not be *curiosus in aliena republica*, [a meddler in other nations' matters,] I cannot fail to represent to your Majesty the unworthiness of the history of England in the main continuance thereof, and the partiality and obliquity of that of Scotland in the latest and largest author that I have seen; supposing that it would be honour for your Majesty and a work very memorable, if this island of Great Britain,[1] as it is now joined in monarchy for the ages to come, so were joined in one history for the times passed; after the manner of the sacred history, which draweth down the story of the Ten Tribes and of the Two Tribes as twins together. And if it shall seem that the greatness of this work may make it less exactly performed, there is an excellent period of a much smaller compass of time, as to the story of England; that is to say, from the Uniting of the Roses to the

[1] Spelt *Brittanie* in the original; *Brittany* in edd. 1629 and 1633.

Uniting of the Kingdoms; a portion of time, wherein to my understanding, there hath been the rarest varieties that in like number of successions of any hereditary monarchy hath been known. For it beginneth with the mixed adeption of a crown, by arms and title; an entry by battle, an establishment by marriage; and therefore times answerable, like waters after a tempest, full of working and swelling, though without extremity of storm; but well passed through by the wisdom of the pilot, being one of the most sufficient kings of all the number. Then followeth the reign of a king, whose actions, howsoever conducted,[1] had much intermixture with the affairs of Europe, balancing and inclining them variably; in whose time also began that great alteration in the state ecclesiastical, an action which seldom cometh upon the stage: then the reign of a minor: then an offer of an usurpation, though it was but as *febris ephemera*, [a diary ague:] then the reign of a queen matched with a foreigner: then of a queen that lived solitary and unmarried, and yet her government so masculine as it had greater impression and operation upon the states abroad than it any ways received from thence:[2] and now last, this most happy and glorious event, that this island of Britain, divided from all the world, should be united in itself; and that oracle of rest given to Æneas, *Antiquam exquirite matrem*, [seek out your ancient mother,] should now be

[1] The distinction between the father and the son is more clearly marked in the translation. Of Henry VII he says *qui unus inter antecessores reges* consilio *enituit*; of Henry VIII.'s actions, *licet magis impetu quam consil'o administratæ*. Had Bacon gone on with his history of Henry VIII. it would have been curious to contrast the portrait of the son governing more by passion than policy, with that of the father governing by policy without passion.

[2] This last clause is omitted in the *De Augmentis*. See note p. 109.

performed and fulfilled upon the nations of England and Scotland, being now reunited in the ancient mother name of Britain, as a full period of all instability and peregrinations: so that as it cometh to pass in massive bodies, that they have certain trepidations and waverings before they fix and settle; so it seemeth that by the providence of God this monarchy, before it was to settle in your Majesty and your generations, (in which I hope it is now established for ever,) it had these prelusive changes and varieties.

For Lives, I do find strange that these times have so little esteemed the virtues of the times, as that the writing of lives should be no more frequent. For although there be not many sovereign princes or absolute commanders, and that states are most collected into monarchies, yet are there many worthy personages that deserve better than dispersed report or barren elogies. For herein the invention of one of the late poets[1] is proper, and doth well enrich the ancient fiction: for he feigneth that at the end of the thread or web of every man's life there was a little medal containing the person's name, and that Time waited upon the shears, and as soon as the thread was cut, caught the medals and carried them to the river of Lethe; and about the bank there were many birds flying up and down, that would get the medals and carry them in their beak a little while, and then let them fall into the river: only there were a few swans, which if they got a name, would carry it to a temple where it was consecrate. And although many men more mortal in their affections than in their bodies, do

[1] Ariosto, *Orlando Furioso*; at the end of the 34th and the beginning of the 35th books.

esteem desire of name and memory but as a vanity and ventosity,

Animi nil magnæ laudis egentes;

[souls that have no care for praise;] which opinion cometh from that root, *non prius laudes contempsimus, quam laudanda facere desivimus;* [men hardly despise praise till they have ceased to deserve it;] yet that will not alter Salomon's judgment, *Memoria justi cum laudibus, at impiorum nomen putrescet;* [the memory of the just is blessed; but the name of the wicked shall rot;] the one flourisheth, the other either consumeth to present oblivion, or turneth to an ill odour. And therefore in that style or addition, which is and hath been long well received and brought in use, *felicis memoriæ, piæ memoriæ, bonæ memoriæ,* [of happy, of pious, of good memory,] we do acknowledge that which Cicero saith, borrowing it from Demosthenes, that *bona fama propria possessio defunctorum;*[1] [good fame is all that a dead man can possess;] which possession I cannot but note that in our times it lieth much waste, and that therein there is a deficience.

For Narrations and Relations of particular actions, there were also to be wished a greater diligence therein; for there is no great action but hath some good pen which attends it. And because it is an ability not common to write a good history, as may well appear by the small number of them; yet if particularity of actions memorable were but tolerably reported as they pass, the compiling of a complete History of Times might be the better expected, when a writer should

[1] Compare Cicero, Philippic. 9. 5., with the opening of the λόγος ἐπιτάφιος, 1389–10.

arise that were fit for it: for the collection of such relations might be as a nursery garden, whereby to plant a fair and stately garden when time should serve.

¶ [1] There is yet another portion of history which Cornelius Tacitus maketh, which is not to be forgotten, specially with that application which he accoupleth it withal, Annals and Journals: appropriating to the former matters of estate, and to the later acts and accidents of a meaner nature. For giving but a touch of certain magnificent buildings, he addeth, *Cum ex dignitate populi Romani repertum sit, res illustres annalibus, talia diurnis urbis actis mandare:* [that it had been thought suitable to the dignity of the Roman people to enter in their *annals* only matters of note and greatness; leaving such things as these to the *journal records* of the city.] So as there is a kind of contemplative heraldry, as well as civil. And as nothing doth derogate from the dignity of a state more than confusion of degrees; so it doth not a little embase the authority of an history, to intermingle matters of triumph or matters of ceremony or matters of novelty with matters of state. But the use of a Journal hath not only been in the history of times,[2] but likewise in the history of persons, and chiefly of actions; for princes in ancient time had, upon point of honour and policy both, journals kept of what passed day by day: for we see the Chronicle which was read before Ahasuerus,[3] when he could not take rest, con-

[1] De Aug. ii. 9. Between this paragraph and the last there is introduced in the translation a chapter on the advantages and disadvantages of histories of the world, as distinguished from histories of particular countries.

[2] *time* in the original and also in edd. 1629 and 1633. The translation omits this clause.

[3] Esther, vi. 1.

tained matter of affairs indeed, but such as had passed in his own time, and very lately before: but the Journal of Alexander's house expressed every small particularity, even concerning his person and court;[1] and it is yet an use well received in enterprises memorable, as expeditions of war, navigations, and the like, to keep diaries of that which passeth continually.

¶[2] I cannot likewise be ignorant of a form of writing which some grave and wise men have used, containing a scattered history of those actions which they have thought worthy of memory, with politic discourse and observation thereupon; not incorporate into the history, but separately, and as the more principal in their intention; which kind of Ruminated History I think more fit to place amongst books of policy, whereof we shall hereafter speak, than amongst books of history;[3] for it is the true office of history to represent the events themselves together with the counsels, and to leave the observations and conclusions thereupon to the liberty and faculty of every man's judgment. But mixtures are things irregular, whereof no man can define.

So also is there another kind of history manifoldly mixed, and that is History of Cosmography: being

[1] Not that greater matters were excluded; but great and small were entered promiscuously as they occurred. (*Neque enim sicut annales tantum gravia, ita diaria tantum levia complexa sunt; sed omnia promiscue et cursim diariis excipiebantur, seu majoris seu minoris momenti.*)

[2] De Aug. ii. 10.

[3] This remark is omitted in the translation, and another substituted, to the effect that this kind of ruminated history is an excellent thing, provided it be understood that the matter in hand is not history but observations upon history (*modo hujusmodi scriptor hoc agat et hoc se agere confiteatur*); for in a regular history the narrative ought not, he says, to be interrupted by comments of this kind. It should be pregnant with politic precepts, but the writer should not play the midwife.

compounded of natural history, in respect of the regions themselves; of history civil, in respect of the habitations, regiments, and manners of the people; and the mathematics, in respect of the climates and configurations towards the heavens: which part of learning of all others in this latter time hath obtained most proficience. For it may be truly affirmed to the honour of these times, and in a virtuous emulation with antiquity, that this great building of the world had never through-lights made in it, till the age of us and our fathers; for although they had knowledge of the antipodes,

> Nosque ubi primus equis oriens afflavit anhelis,
> Illic sera rubens accendit lumina Vesper:
> [And while on us the fresh East breathes from far,
> For them the red West lights her evening star:]

yet that might be by demonstration, and not in fact; and if by travel, it requireth the voyage but of half the globe. But to circle the earth, as the heavenly bodies do, was not done nor enterprised till these later times: and therefore these times may justly bear in their word, not only *plus ultra*, in precedence of the ancient *non ultra*, and *imitabile fulmen* in precedence of the ancient *non imitabile fulmen*,

> Demens qui nimbos et non imitabile fulmen &c.

but likewise *imitabile cœlum;* in respect of the many memorable voyages, after the manner of heaven, about the globe of the earth.

And this proficience in navigation and discoveries may plant also an expectation of the further proficience and augmentation of all sciences; because it may seem they are ordained by God to be coevals, that is, to

meet in one age. For so the prophet Daniel speaking of the latter times foretelleth, *Plurimi pertransibunt, et multiplex erit scientia:* [many shall pass to and fro, and knowledge shall be multiplied:] as if the openness and through passage of the world and the increase of knowledge were appointed to be in the same ages; as we see it is already performed in great part; the learning of these later times not much giving place to the former two periods or returns of learning, the one of the Grecians, the other of the Romans.

¶ [1] History Ecclesiastical receiveth the same divisions with History Civil: but further in the propriety thereof may be divided into History of the Church, by a general name; History of Prophecy; and History of Providence. The first describeth the times of the militant church; whether it be fluctuant, as the ark of Noah; or moveable, as the ark in the wilderness; or at rest, as the ark in the temple; that is, the state of the church in persecution, in remove, and in peace. This part I ought in no sort to note as deficient; only I would that the virtue and sincerity of it were according to the mass and quantity. But I am not now in hand with censures, but with omissions.

The second, which is History of Prophecy, consisteth of two relatives, the prophecy and the accomplishment; and therefore the nature of such a work ought to be, that every prophecy of the scripture be sorted with the event fulfilling the same, throughout the ages of the world; both for the better confirmation of faith, and for the better illumination of the church touching those parts of prophecies which are yet un-

[1] De Aug. ii. 11.

fulfilled; allowing nevertheless that latitude which is agreeable and familiar unto divine prophecies; being of the nature of their author, with whom a thousand years are but as one day; and therefore are not fulfilled punctually at once, but have springing and germinant accomplishment throughout many ages, though the height or fulness of them may refer to some one age. This is a work which I find deficient, but is to be done with wisdom, sobriety, and reverence, or not at all.

Historia Prophetica.

The third, which is History of Providence, containeth that excellent correspondence which is between God's revealed will and his secret will; which though it be so obscure as for the most part it is not legible to the natural man; no, nor many times to those that behold it from the tabernacle; yet at some times it pleaseth God, for our better establishment and the confuting of those which are as without God in the world, to write it in such text and capital letters that, as the prophet saith, *he that runneth by may read it;*[1] that is, mere sensual persons, which hasten by God's judgments and never bend or fix their cogitations upon them, are nevertheless in their passage and race urged to discern it. Such are the notable events and examples of God's judgments, chastisements, deliverances, and blessings. And this is a work which hath passed through the labour of many,[2] and therefore I cannot present as omitted.

[1] Habak. ii. 2. Mr. Ellis has remarked in his note on the corresponding passage in the *De Augmentis* that this expression, now so familiar and almost proverbial, is in fact a misquotation of the text and a misrepresentation of the meaning of the prophet. "Write the vision and make it plain upon the tables that he may run that readeth it." It would be a curious inquiry, who first made this mistake.

[2] In the translation he says, "*sane in calamos nonnullorum piorum viro-*

¶ [1] There are also other parts of learning which are Appendices to history. For all the exterior proceedings of man consist of words and deeds; whereof history doth properly receive and retain in memory the deeds, and if words, yet but as inducements and passages to deeds; so are there other books and writings, which are appropriate to the custody and receit of words only; which likewise are of three sorts; Orations, Letters, and Brief Speeches or Sayings. Orations are pleadings, speeches of counsel; laudatives, invectives, apologies, reprehensions; orations of formality or ceremony, and the like. Letters are according to all the variety of occasions; advertisements, advices, directions, propositions, petitions, commendatory, expostulatory, satisfactory, of compliment, of pleasure, of discourse, and all other passages of action. And such as are written from wise men are, of all the words of man, in my judgment the best; for they are more natural than orations and public speeches, and more advised than conferences or present speeches. So again letters of affairs from such as manage them or are privy to them are of all others the best instructions for history, and to a diligent reader the best histories in themselves. For Apophthegms, it is a great loss of that book of Cæsar's; for as his history and those few letters of his which we have and those apophthegms which were of his own excel all men's else, so I suppose would his collection of Apophthegms have done;

rum incidit, sed non sine partium studio." Indeed it is difficult to see how, without partiality, such a history of Providence could be written at all. For take any signal calamity and look at it in its historical character only, — who shall say whether it is a chastisement or a martyrdom? a judgment upon the sinner, or a trial of the saint?

[1] De Aug. ii. 12.

for as for those which are collected by others, either I have no taste in such matters, or else their choice hath not been happy.[1] But upon these three kinds of writings I do not insist, because I have no deficiences to propound concerning them.

Thus much therefore concerning History; which is that part of learning which answereth to one of the cells, domiciles, or offices of the mind of man; which is that of the Memory.

¶ [2] POESY is a part of learning in measure of words for the most part restrained, but in all other points extremely licensed, and doth truly refer to the Imagination; which, being not tied to the laws of matter, may at pleasure join that which nature hath severed, and sever that which nature hath joined, and so make unlawful matches and divorces of things: *Pictoribus atque poetis*, &c. [Painters and Poets have always been allowed to take what liberties they would.] It is taken in two senses, in respect of words or matter. In the first sense it is but a character of style, and belongeth to arts of speech, and is not pertinent for the present.[3] In the later, it is (as hath been said) one of the principal portions of learning, and is nothing else but

[1] Some further remarks upon the value and use of Apophthegms are introduced in the *De Augmentis:* of these, a translation will be given in my preface to Bacon's own collection of Apophthegms.

[2] De Aug. ii. 13. The arrangement is partly altered in the translation, and much new matter introduced: among the rest, a whole paragraph concerning the true use and dignity of dramatic poetry, as a vehicle of moral instruction; which is connected in a striking manner with the remark that men in bodies are more open to impressions than when alone.

[3] A sentence is added in the translation to explain that under this head satires, elegies, epigrams, and odes are included.

Feigned History, which may be styled as well in prose as in verse.

The use of this Feigned History hath been to give some shadow of satisfaction to the mind of man in those points wherein the nature of things doth deny it; the world being in proportion inferior to the soul; by reason whereof there is agreeable to the spirit of man a more ample greatness, a more exact goodness, and a more absolute variety, than can be found in the nature of things. Therefore, because the acts or events of true history have not that magnitude which satisfieth the mind of man, poesy feigneth acts and events greater and more heroical; because true history propoundeth the successes and issues of actions not so agreeable to the merits of virtue and vice, therefore poesy feigns them more just in retribution, and more according to revealed providence; because true history representeth actions and events more ordinary and less interchanged, therefore poesy endueth them with more rareness, and more unexpected and alternative variations. So as it appeareth that poesy serveth and conferreth to magnanimity, morality, and to delectation. And therefore it was ever thought to have some participation of divineness, because it doth raise and erect the mind, by submitting the shews of things to the desires of the mind; whereas reason doth buckle and bow the mind unto the nature of things. And we see that by these insinuations and congruities with man's nature and pleasure, joined also with the agreement and consort it hath with music, it hath had access and estimation in rude times and barbarous regions, where other learning stood excluded.

The division of poesy which is aptest in the propriety

thereof, (besides those divisions which are common unto it with history, as feigned chronicles, feigned lives; and the appendices of history, as feigned epistles, feigned orations, and the rest;) is into Poesy Narrative, Representative, and Allusive. The Narrative is a mere imitation of history, with the excesses before remembered; choosing for subject commonly wars and love, rarely state, and sometimes pleasure or mirth.[1] Representative is as a visible history, and is an image of actions as if they were present, as history is of actions in nature as they are, (that is) past. Allusive or Parabolical is a narration applied only to express some special purpose or conceit.[2] Which later kind of parabolical wisdom was much more in use in the ancient times, as by the fables of Æsop and the brief sentences of the Seven and the use of hieroglyphics may appear. And the cause was, for that it was then of necessity to express any point of reason which was more sharp or subtile than the vulgar in that manner; because men in those times wanted both variety of examples and subtilty of conceit: and as hieroglyphics were before letters, so parables were before arguments: and nevertheless now and at all times they do retain much life and vigour, because reason cannot be so sensible, nor examples so fit.

But there remaineth yet another use of Poesy Parabolical, opposite to that which we last mentioned: for that tendeth to demonstrate and illustrate that which is taught or delivered, and this other to retire and obscure

[1] The last clause of this sentence is omitted in the translation.

[2] This obscure sentence is explained in the translation to mean that Parabolic Poesy is *historia cum typo, quæ intellectualia deducit ad sensum*,—typical history, by which ideas that are objects of the Intellect are represented in forms that are objects of the Sense.

it: that is when the secrets and mysteries of religion, policy, or philosophy are involved in fables or parables. Of this in divine poesy we see the use is authorized. In heathen poesy we see the exposition of fables doth fall out sometimes with great felicity; as in the fable that the giants being overthrown in their war against the gods, the Earth their mother in revenge thereof brought forth Fame:

> Illam Terra parens, irâ irritata deorum,
> Extremam, ut perhibent, Cœo Enceladoque sororem
> Progenuit:

expounded that when princes and monarchs have suppressed actual and open rebels, then the malignity of people (which is the mother of rebellion) doth bring forth libels and slanders and taxations of the state, which is of the same kind with rebellion, but more feminine. So in the fable that the rest of the gods having conspired to bind Jupiter, Pallas called Briareus with his hundred hands to his aid: expounded that monarchies need not fear any curbing of their absoluteness by mighty subjects, as long as by wisdom they keep the hearts of the people, who will be sure to come in on their side. So in the fable that Achilles was brought up under Chiron the Centaur, who was part a man and part a beast: expounded ingeniously but corruptly by Machiavel, that it belongeth to the education and discipline of princes to know as well how to play the part of the lion in violence and the fox in guile, as of the man in virtue and justice.[1] Nevertheless in

[1] The Prince, c. 18. As two of the animals are the same it is possible that Macchiavelli was thinking of what was said of Boniface VIII. by the predecessor whom he forced to abdicate, — that he came in like a fox, would reign like a lion, and die like a dog. — *R. L. E.*

many the like encounters, I do rather think that the fable was first, and the exposition devised, than that the moral was first, and thereupon the fable framed. For I find it was an ancient vanity in Chrysippus, that troubled himself with great contention to fasten the assertions of the Stoics upon the fictions of the ancient poets. But yet that all the fables and fictions of the poets were but pleasure and not figure, I interpose no opinion. Surely of those poets which are now extant, even Homer himself, (notwithstanding he was made a kind of Scripture by the later schools of the Grecians,) yet I should without any difficulty pronounce that his fables had no such inwardness in his own meaning; but what they might have upon a more original tradition, is not easy to affirm; for he was not the inventor of many of them.[1]

In this third part of learning, which is poesy, I can report no deficience. For being as a plant that cometh of the lust of the earth, without a formal seed, it hath sprung up and spread abroad more than any other kind. But to ascribe unto it that which is due; for the expressing of affections, passions, corruptions, and customs, we are beholding to poets more than to the philosophers' works; and for wit and eloquence not much less than to orators' harangues.[2] But it is not good to stay too long in the theatre. Let us now pass on to the judicial place or palace of the mind, which we are to approach and view with more reverence and attention.

[1] For these examples there is substituted in the translation a full exposition of the three fables of Pan, Perseus, and Dionysus. And it is worth observing that, upon the question whether there was really a mystic sense at the bottom of the ancient fables, Bacon expresses in the translation a more decided inclination to the affirmative than he does here.

[2] This sentence is omitted in the translation.

¶ [1] The knowledge of man is as the waters, some descending from above, and some springing from beneath; the one informed by the light of nature, the other inspired by divine revelation. The light of nature consisteth in the notions of the mind and the reports of the senses; for as for knowledge which man receiveth by teaching, it is cumulative and not original; as in a water that besides his own spring-head is fed with other springs and streams. So then according to these two differing illuminations or originals, knowledge is first of all divided into Divinity and Philosophy.

In Philosophy, the contemplations of man do either penetrate unto God, or are circumferred to Nature, or are reflected or reverted upon Himself. Out of which several inquiries there do arise three knowledges, Divine philosophy, Natural philosophy, and Human philosophy or Humanity. For all things are marked and stamped with this triple character, of the power of God, the difference of nature, and the use of man. But because the distributions and partitions of knowledge are not like several lines that meet in one angle, and so touch but in a point; but are like branches of a tree that meet in a stem, which hath a dimension and quantity of entireness and continuance, before it come to discontinue and break itself into arms and boughs; therefore it is good, before we enter into the former distribution, to erect and constitute one universal science, by the name of *Philosophia Prima*, Primitive or Summary Philosophy, as the main and common way, before we come where the ways part and divide them-

[1] De Aug. iii. 1. The order of this chapter is changed in the translation and a good deal added.

selves; which science whether I should report as deficient or no, I stand doubtful. For I find a certain rhapsody of Natural Theology, and of divers parts of Logic; and of that part of Natural Philosophy which concerneth the Principles, and of that other part of Natural Philosophy which concerneth the Soul or Spirit; all these strangely commixed and confused; but being examined, it seemeth to me rather a depredation of other sciences, advanced and exalted unto some height of terms,[1] than any thing solid or substantive of itself. Nevertheless I cannot be ignorant of the distinction which is current, that the same things are handled but in several respects; as for example, that logic considereth of many things as they are in notion, and this philosophy as they are in nature; the one in appearance, the other in existence. But I find this difference better made than pursued. For if they had considered Quantity, Similitude, Diversity, and the rest of those Extern Characters of things, as philosophers, and in nature, their inquiries must of force have been of a far other kind than they are. For doth any of them, in handling Quantity, speak of the force of union, how and how far it multiplieth virtue? Doth any give the reason, why some things in nature are so common and in so great mass, and others so rare and in so small quantity? Doth any, in handling Similitude and Diversity, assign the cause why iron should not move to iron, which is more like, but move to the loadstone, which is less like? Why in all diversities of

[1] *Et sublimitate quadam sermonis hominum qui se ipsos admirari amant tanquam in vertice scientiarum collocatam.* — De Aug. The substance of the rest of this paragraph, till we come to the last sentence, is transferred to the end of the chapter in the *De Augmentis* and set forth more fully and clearly.

things there should be certain participles in nature, which are almost ambiguous to which kind they should be referred? But there is a mere and deep silence touching the nature and operation of those Common Adjuncts of things, as in nature; and only a resuming and repeating of the force and use of them in speech or argument. Therefore, because in a writing of this nature I avoid all subtility, my meaning touching this original or universal philosophy is thus, in a plain and gross description by negative: *That it be a receptacle for all such profitable observations and axioms as fall not within the compass of any of the special parts of philosophy or sciences, but are more common and of a higher stage.*

Now that there are many of that kind need not be doubted. For example; is not the rule, *Si inæqualibus æqualia addas, omnia erunt inæqualia*, [if equals be added to unequals, the wholes will be unequal,] an axiom as well of justice as of the mathematics?[1]

[1] This clause is printed out of its place both in the original and in the editions of 1629 and 1633; being inserted after the next sentence. It is obviously an error of the printer; but worth noticing as evidence of the imperfection of the arrangements then made for correcting the press. I am inclined to think that in Bacon's time the proof-sheets were never revised by the author.

In the translation we are told that the axiom holds with regard to *distributive* justice only. (*Eadem in Ethicis obtinet quatenus ad justitiam distributivam: siquidem in justitiâ commutativâ, ut paria imparibus tribuantur ratio æquitatis postulat; at in distributiva, nisi imparia imparibus præstentur, iniquitas fuerit maxima.*) Equal measure distributed to unequal conditions produces an unequal result; a truth of which many striking illustrations are furnished by the operation of our own laws as between the rich and the poor, when the same penalty inflicted for the same offence falls heavily on the one and lightly on the other. In matter of *commutation*, — as in a question, for instance, of compensation for property destroyed, — this of course does not hold. The coincidence between commutative and distributive justice and arithmetical and geometrical proportion is not alluded to in the translation. But this may have been by accident; the translator

And is there not a true coincidence between commutative and distributive justice, and arithmetical and geometrical proportion? Is not that other rule, *Quæ in eodem tertio conveniunt, et inter se conveniunt*, [things that are equal to the same are equal to each other,] a rule taken from the mathematics, but so potent in logic as all syllogisms are built upon it? Is not the observation, *Omnia mutantur, nil interit*, [all things change, but nothing is lost,] a contemplation in philosophy thus, That the *quantum* of nature is eternal? in natural theology thus, That it requireth the same omnipotence to make somewhat nothing, which at the first made nothing somewhat? according to the scripture, *Didici quod omnia opera quæ fecit Deus perseverent in perpetuum; non possumus eis quicquam addere nec auferre:* [I know that whatsoever God doeth, it shall be for ever; nothing can be put to it, nor anything taken from it]. Is not the ground, which Machiavel wisely and largely discourseth concerning governments, that the way to establish and preserve them is to reduce them *ad principia*,[1] a rule in religion and nature[2] as well as in civil administration? Was not the Persian Magic a reduction or correspondence of the principles and architectures of nature to the rules and policy of governments? Is not the precept of a musician, to fall from a discord or harsh accord upon a concord or sweet accord, alike true in affection? Is not the trope of music, to avoid or slide from the close or cadence, common with the trope of rhetoric of deceiving expectation? Is not the delight of the quavering

perhaps not having observed where the misplaced sentence was meant to come in.

[1] Discorsi, iii. 1.

[2] The translation says *in physicis*, omitting the word *religion*.

upon a stop in music the same with[1] the playing of light upon the water?

Splendet tremulo sub lumine pontus:
[Beneath the trembling light glitters the sea.]

Are not the organs of the senses of one kind with the organs of reflexion, the eye with a glass, the ear with a cave or strait determined and bounded?[2] Neither are these only similitudes, as men of narrow observation may conceive them to be, but the same footsteps of nature, treading or printing upon several subjects or matters. This science therefore (as I understand it) I may justly report as deficient; for I see sometimes the profounder sort of wits, in handling some particular argument, will now and then draw a bucket of water out of this well for their present use; but the springhead thereof seemeth to me not to have been visited, being of so excellent use both for the disclosing of nature and the abridgment of art. *Philosophia Prima, sive de Fontibus Scientiarum.*

¶[3] This science being therefore first placed as a common parent, like unto Berecynthia, which had so much heavenly issue,

Omnes cœlicolas, omnes supera alta tenentes:
[All dwellers in the heaven and upper sky:]

we may return to the former distribution of the three philosophies; Divine, Natural, and Human. And as concerning Divine Philosophy or Natural Theology, it is that knowledge or rudiment of knowledge concerning God which may be obtained by the contempla-

[1] So ed. 1633. The original and the ed. 1629 have *which*.
[2] Some other instances are added in the translation.
[3] De Aug. iii. 2.

tion of his creatures; which knowledge may be truly termed divine in respect of the object, and natural in respect of the light. The bounds of this knowledge are, that it sufficeth to convince atheism, but not to inform religion: and therefore there was never miracle wrought by God to convert an atheist, because the light of nature might have led him to confess a God: but miracles have been wrought to convert idolaters and the superstitious, because no light of nature extendeth to declare the will and true worship of God. For as all works do shew forth the power and skill of the workman, and not his image; so it is of the works of God; which do shew the omnipotency and wisdom of the maker, but not his image: and therefore therein the heathen opinion differeth from the sacred truth; for they supposed the world to be the image of God, and man to be an extract or compendious image of the world; but the Scriptures never vouchsafe to attribute to the world that honour, as to be the image of God, but only *the work of his hands;* neither do they speak of any other image of God, but man. Wherefore by the contemplation of nature to induce and inforce the acknowledgement of God, and to demonstrate his power, providence, and goodness, is an excellent argument, and hath been excellently handled by divers. But on the other side, out of the contemplation of nature, or ground of human knowledges, to induce any verity or persuasion concerning the points of faith, is in my judgment not safe: *Da fidei quæ fidei sunt:* [give unto Faith that which is Faith's]. For the Heathen themselves conclude as much in that excellent and divine fable of the golden chain: *That men and gods were not able to draw Jupiter down to the*

earth; but contrariwise, Jupiter was able to draw them up to heaven. So as we ought not to attempt to draw down or submit the mysteries of God to our reason; but contrariwise to raise and advance our reason to the divine truth. So as in this part of knowledge touching divine philosophy, I am so far from noting any deficience, as I rather note an excess: whereunto I have digressed, because of the extreme prejudice which both religion and philosophy hath received and may receive by being commixed together; as that which undoubtedly will make an heretical religion, and an imaginary and fabulous philosophy.

Otherwise it is of the nature of angels and spirits, which is an appendix of theology both divine and natural, and is neither inscrutable nor interdicted; for although the Scripture saith, *Let no man deceive you in sublime discourse touching the worship of angels, pressing into that he knoweth not*, &c. yet notwithstanding if you observe well that precept, it may appear thereby that there be two things only forbidden, adoration of them, and opinion fantastical of them; either to extol them further than appertaineth to the degree of a creature, or to extol a man's knowledge of them further than he hath ground. But the sober and grounded inquiry which may arise out of the passages of holy Scriptures, or out of the gradations of nature, is not restrained. So of degenerate and revolted spirits, the conversing with them or the employment of them is prohibited, much more any veneration towards them. But the contemplation or science of their nature, their power, their illusions, either by Scripture or reason, is a part of spiritual wisdom. For so the apostle saith, *We are not ignorant of his*

stratagems; and it is no more unlawful to inquire the nature of evil spirits than to enquire the force of poisons in nature, or the nature of sin and vice in morality. But this part touching angels and spirits, I cannot note as deficient, for many have occupied themselves in it; I may rather challenge it, in many of the writers thereof, as fabulous and fantastical.

¶ [1] Leaving therefore Divine Philosophy or Natural Theology (not Divinity or Inspired Theology, which we reserve for the last of all, as the haven and sabbath of all man's contemplations), we will now proceed to Natural Philosophy. If then it be true that Democritus said, *That the truth of nature lieth hid in certain deep mines and caves;* and if it be true likewise that the Alchemists do so much inculcate, that Vulcan is a second nature, and imitateth that dexterously and compendiously which nature worketh by ambages and length of time; it were good to divide natural philosophy into the mine and the furnace, and to make two professions or occupations of natural philosophers, some to be pioners and some smiths; some to dig, and some to refine and hammer. And surely I do best allow of a division of that kind, though in more familiar and scholastical terms; namely, that these be the two parts of natural philosophy, — the Inquisition of Causes, and the Production of Effects; Speculative, and Operative; Natural Science, and Natural Prudence. For as in civil matters there is a wisdom of discourse and a wisdom of direction; so is it in natural. And here I will make a request, that for the latter (or at least for a part thereof) I may revive and reintegrate the misapplied and abused name of Natural Magic; which in

[1] De Aug. iii. 3.

the true sense is but Natural Wisdom, or Natural Prudence; taken according to the ancient acception, purged from vanity and superstition.[1] Now although it be true, and I know it well, that there is an intercourse between Causes and Effects, so as both these knowledges, Speculative and Operative, have a great connexion between themselves; yet because all true and fruitful Natural Philosophy hath a double scale or ladder, ascendent and descendent; ascending from experiments to the invention of causes, and descending from causes to the invention of new experiments; therefore I judge it most requisite that these two parts be severally considered and handled.

¶ [2] Natural Science or Theory is divided into Physic and Metaphysic: wherein I desire it may be conceived that I use the word Metaphysic in a differing sense from that that is received: and in like manner I doubt not but it will easily appear to men of judgment that in this and other particulars, wheresoever my conception and notion may differ from the ancient, yet I am studious to keep the ancient terms. For hoping well to deliver myself from mistaking by the order and perspicuous expressing of that I do propound, I am otherwise zealous and affectionate to recede as little from antiquity, either in terms or opinions, as may stand with truth and the proficience of knowledge. And herein I cannot a little marvel at the philosopher Aristotle, that did proceed in such a spirit of difference and contradiction towards all antiquity; undertaking not only to frame new words of science at pleasure, but to confound and extinguish all ancient wisdom;

[1] This request is omitted in the translation.
[2] De Aug. iii. 4.

insomuch as he never nameth or mentioneth an ancient author or opinion, but to confute and reprove; wherein for glory, and drawing followers and disciples, he took the right course. For certainly there cometh to pass and hath place in human truth, that which was noted and pronounced in the highest truth: *Veni in nomine Patris, nec recipitis me; si quis venerit in nomine suo, eum recipietis;* [I have come in my Father's name, and ye receive me not; if one come in his own name, him ye will receive]. But in this divine aphorism (considering to whom it was applied, namely to Antichrist, the highest deceiver,) we may discern well that *the coming in a man's own name*, without regard of antiquity or paternity, is no good sign of truth; although it be joined with the fortune and success of an *Eum recipietis*. But for this excellent person[1] Aristotle, I will think of him that he learned that humour of his scholar, with whom it seemeth he did emulate, the one to conquer all opinions, as the other to conquer all nations. Wherein nevertheless, it may be, he may at some men's hands that are of a bitter disposition get a like title as his scholar did;

> Felix terrarum prædo, non utile mundo
> Editus exemplum, &c.

[a fortunate robber, who made prize of nations]; so

> Felix doctrinæ prædo,

[a fortunate robber, who made prize of learning]. But to me on the other side that do desire, as much as lieth in my pen, to ground a sociable intercourse[2]

[1] *viro tam eximio certe, et ob acumen ingenii mirabili.* — De Aug.

[2] *entercourse* in the original, — the form of the word commonly used by Bacon.

between antiquity and proficience, it seemeth best to keep way with antiquity *usque ad aras*, [as far as may be without violating higher obligations;] and therefore to retain the ancient terms, though I sometimes alter the uses and definitions; according to the moderate proceeding in civil government, where although there be some alteration, yet that holdeth which Tacitus wisely noteth, *eadem magistratuum vocabula*, [the name of the magistracies are not changed].

To return therefore to the use and acception of the term Metaphysic, as I do now understand the word: It appeareth by that which hath been already said, that I intend Philosophia Prima, Summary Philosophy, and Metaphysic, which heretofore have been confounded as one, to be two distinct things. For the one I have made as a parent or common ancestor to all knowledge, and the other I have now brought in as a branch or descendent of Natural Science. It appeareth likewise that I have assigned to Summary Philosophy the common principles and axioms which are promiscuous and indifferent to several sciences. I have assigned unto it likewise the inquiry *touching the operation of the relative and adventive characters of essences, as Quantity, Similitude, Diversity, Possibility*, and the rest; with this distinction and provision; that they be handled as they have efficacy in nature, and not logically. It appeareth likewise that Natural Theology, which heretofore hath been handled confusedly with Metaphysic, I have inclosed and bounded by itself. It is therefore now a question, what is left remaining for Metaphysic; wherein I may without prejudice preserve thus much of the conceit of antiquity, that Physic should contemplate that which is inherent in

matter and therefore transitory, and Metaphysic that which is abstracted and fixed. And again that Physic should handle that which supposeth in nature only a being and moving,[1] and Metaphysic should handle that which supposeth further in nature a reason, understanding, and platform.[2] But the difference, perspicuously expressed, is most familiar and sensible. For as we divided Natural Philosophy in general into the Inquiry of Causes and Productions of Effects; so that part which concerneth the Inquiry of Causes we do subdivide, according to the received and sound division of Causes; the one part, which is Physic, enquireth and handleth the Material and Efficient Causes; and the other, which is Metaphysic, handleth the Formal and Final Causes.

Physic (taking it according to the derivation, and not according to our idiom for Medicine,) is situate in a middle term or distance between Natural History and Metaphysic. For Natural History describeth the *variety of things;* Physic, the causes, but *variable or respective causes;* and Metaphysic, the *fixed and constant causes.*

> Limus ut hic durescit, et hæc ut cera liquescit,
> Uno eodemque igni:
> [As the same fire which makes the soft clay hard
> Makes hard wax soft:]

Fire is the cause of induration, but respective to clay; fire is the cause of colliquation, but respective to wax; but fire is no constant cause either of induration or colliquation. So then the physical causes are but the efficient and the matter. Physic hath three parts; whereof two respect nature *united* or *collected*, the third

[1] The translation adds "and natural necessity." [2] *ideam.*

contemplateth nature *diffused* or *distributed*. Nature is collected either into one entire *total*, or else into the same *principles* or *seeds*. So as the first doctrine is touching the Contexture or Configuration of things, as *de mundo*, *de universitate rerum*. The second is the doctrine concerning the Principles or Originals of things. The third is the doctrine concerning all Variety and Particularity of things, whether it be of the differing substances, or their differing qualities and natures; whereof there needeth no enumeration, this part being but as a gloss or paraphrase, that attendeth upon the text of Natural History.[1] Of these three I cannot report any as deficient. In what truth or perfection they are handled, I make not now any judgment: but they are parts of knowledge not deserted by the labour of man.

For Metaphysic, we have assigned unto it the inquiry of Formal and Final Causes; which assignation, as to the former of them, may seem to be nugatory and void, because of the received and inveterate opinion that the inquisition of man is not competent to find out *essential forms* or *true differences:* of which opinion we will take this hold; that the invention of Forms is of all other parts of knowledge the worthiest to be sought, if it be possible to be found. As for the possibility, they are ill discoverers that think there is no land when they can see nothing but sea. But it is manifest that Plato in his opinion of Ideas, as one that had a wit of elevation situate as upon a cliff, did descry *that forms were the true object of knowledge;* but lost the real fruit of his opinion, by considering of forms as absolutely abstracted from matter, and not confined

[1] On this branch of the subject there is a large addition of ten or twelve pages in the *De Augmentis*.

and determined by matter; and so turning his opinion upon Theology, wherewith all his natural philosophy is infected. But if any man shall keep a continual watchful and severe eye upon action, operation, and the use of knowledge, he may advise and take notice what are the Forms, the disclosures whereof are fruitful and important to the state of man. For as to the Forms of substances — Man only except, of whom it is said, *Formavit hominem de limo terræ, et spiravit in faciem ejus spiraculum vitæ*, [He formed man of the dust of the ground, and breathed into his nostrils the breath of life,] and not as of all other creatures, *Producant aquæ, producat terra*, [let the waters bring forth, let the earth bring forth,] — the Forms of Substances I say (as they are now by compounding and transplanting multiplied) are so perplexed, as they are not to be enquired;[1] no more than it were either possible or to purpose to seek in gross *the forms of those sounds which make words*, which by composition and transposition of letters are infinite. But on the other side, to enquire *the form of those sounds or voices which make simple letters* is easily comprehensible, and being known, induceth and manifesteth the forms of all words, which consist and are compounded of them. In the same manner to enquire the Form of a lion, of an oak, of gold, nay of water, of air, is a vain pursuit: but to enquire the Forms of sense, of voluntary motion, of vegetation, of colours, of gravity and levity, of density, of tenuity, of heat, of cold, and all other natures and qualities, which like an alphabet are not many, and of which the essences (upheld by matter) of all creatures

[1] Or at least (adds the translation) the enquiry must be put off till forms of simpler nature have been discovered.

do consist; to enquire I say the *true forms* of these, is that part of Metaphysic which we now define of. Not but that Physic doth make inquiry and take consideration of the same natures: but how? Only as to the Material and Efficient Causes of them, and not as to the Forms. For example; if the cause of Whiteness in snow or froth be enquired, and it be rendered thus, *that the subtile intermixture of air and water is the cause*, it is well rendered; but nevertheless, is this the Form of Whiteness? No; but it is the Efficient, which is ever but *vehiculum formæ*, [the carrier of the Form].[1] This part of Metaphysic I do not find laboured and performed; whereat I marvel not, because I hold it not possible to be invented by that course of invention which hath been used; in regard that men (which is the root of all error) have made too untimely a departure and too remote a recess from particulars. *Metaphysica, sive De Formis et Finibus Rerum.*

But the use of this part of Metaphysic which I report as deficient, is of the rest the most excellent in two respects; the one, because it is the duty and virtue of all knowledge to abridge the infinity of individual experience as much as the conception of truth will permit, and to remedy the complaint of *vita brevis, ars longa*, [life is short and art is long;] which is performed by uniting the notions and conceptions of sciences.[2] For knowledges are as pyramides, whereof history is the basis: so of Natural Philosophy the basis is Natural History; the stage next the basis is Physic;

[1] A sentence is added here in the translation; see note on *Valerius Terminus*, c. 11.

[2] *i. e.* collecting them into axioms more general, applicable to all the individual varieties: (*axiomata scientiarum in magis generalia, et quæ omni materiæ rerum individuarum competant, colligendo et uniendo*).

the stage next the vertical point is Metaphysic. As for the vertical point, *Opus quod operatur Deus à principio usque ad finem*, [the work which God worketh from the beginning to the end,] the Summary Law of Nature, we know not whether man's inquiry can attain unto it. But these three be the true *stages* of knowledge; and are to them that are depraved no better than the giants' hills, [Pelion, Ossa, and Olympus, piled upon each other,]

> Ter sunt conati imponere Pelio Ossam,
> Scilicet atque Ossæ frondosum involvere Olympum:

but to those which refer all things to the glory of God, they are as the three acclamations, *Sancte, sancte, sancte;* holy in the description or dilatation of his works, holy in the connexion or concatenation of them, and holy in the union of them in a perpetual and uniform law. And therefore the speculation was excellent in Parmenides and Plato, although but a speculation in them, That all things by scale did ascend to unity. So then always that knowledge is worthiest, which is charged with least multiplicity; which appeareth to be Metaphysic; as that which considereth the Simple Forms or Differences of things, which are few in number, and the degrees and co-ordinations whereof make all this variety. The second respect which valueth and commendeth this part of Metaphysic, is that it doth enfranchise the power of man unto the greatest liberty and possibility of works and effects. For Physic carrieth men in narrow and restrained ways, subject to many accidents of impediments, imitating the ordinary flexuous courses of nature; but *latæ undique sunt sapientibus viæ:* to sapience (which was anciently defined to be *rerum divinarum et huma-*

narum scientia, [the knowledge of things human and divine],) there is ever choice of means. For physical causes give light to new invention *in simili materia;* but whosoever knoweth any *form*, knoweth the utmost possibility of *superinducing that nature upon any variety of matter*, and so is less restrained in operation, either to the basis of the Matter, or the condition of the Efficient: which kind of knowledge Salomon likewise, though in a more divine sense, elegantly describeth: *Non arctabuntur gressus tui, et currens non habebis offendiculum;* [thy steps shall not be straitened; thou shalt run and not stumble]. The ways of sapience are not much liable either to particularity or chance.[1]

The second part of Metaphysic is the inquiry of *final* causes, which I am moved to report not as omitted, but as misplaced.[2] And yet if it were but a fault in order, I would not speak of it; for order is matter of illustration, but pertaineth not to the substance of sciences: but this misplacing hath caused a deficience, or at least a great improficience in the sciences themselves. For the handling of final causes mixed with the rest in physical inquiries, hath intercepted the severe and diligent inquiry of all real and physical causes, and given men the occasion to stay upon these satisfactory and specious causes, to the great arrest and prejudice of further discovery. For this I find done not only by Plato, who ever anchoreth upon that shore, but by Aristotle, Galen, and others, which do usually likewise fall upon these flats of *discoursing causes*. For to say that *the hairs of the eye-lids are for a quickset*

[1] *i. e.* neither confined to particular methods, nor liable to be defeated by accidental obstructions. (*Nec angustiis nec obicibus obnoxias esse.*)

[2] *i. e.* placed in the department of Physic instead of Metaphysic. (*Solent enim inquiri inter Physica, non inter Metaphysica.*)

and fence about the sight; or that *the firmness of the skins and hides of living creatures is to defend them from the extremities of heat or cold;* or that *the bones are for the columns or beams, whereupon the frames of the bodies of living creatures are built;* or that *the leaves of trees are for protecting of the fruit;* or that *the clouds are for watering of the earth;* or that *the solidness of the earth is for the station and mansion of living creatures*, and the like, is well enquired and collected in Metaphysic; but in Physic they are impertinent. Nay, they are indeed but remoras and hinderances to stay and slug the ship from further sailing, and have brought this to pass, that the search of the Physical Causes hath been neglected and passed in silence. And therefore the natural philosophy of Democritus and some others, who did not suppose a mind or reason in the frame of things, but attributed *the form thereof able to maintain itself to infinite essays or proofs of nature*, which they term *fortune*, seemeth to me (as far as I can judge by the recital and fragments which remain unto us) in particularities of physical causes more real and better enquired than that of Aristotle and Plato; whereof both intermingled final causes, the one as a part of theology, and the other as a part of logic, which were the favourite studies respectively of both those persons. Not because those final causes are not true, and worthy to be enquired, being kept within their own province; but because their excursions into the limits of physical causes hath bred a vastness and solitude in that track. For otherwise keeping their precincts and borders, men are extremely deceived if they think there is an enmity or repugnancy at all between them. For the cause rendered,

that *the hairs about the eye-lids are for the safeguard of the sight*, doth not impugn the cause rendered, that *pilosity is incident to orifices of moisture; Muscosi fontes*, [the mossy springs,] &c. Nor the cause rendered, that *the firmness of hides is for the armour of the body against extremities of heat or cold*, doth not impugn the cause rendered, that *contraction of pores is incident to the outwardest parts, in regard of their adjacence to foreign or unlike bodies;* and so of the rest: both causes being true and compatible, the one declaring an intention, the other a consequence only. Neither doth this call in question or derogate from divine providence, but highly confirm and exalt it. For as in civil actions he is the greater and deeper politique, that can make other men the instruments of his will and ends and yet never acquaint them with his purpose, so as they shall do it and yet not know what they do, than he that imparteth his meaning to those he employeth; so is the wisdom of God more admirable, when nature intendeth one thing and providence draweth forth another, than if he had communicated to particular creatures and motions the characters and impressions of his providence. And thus much for Metaphysic; the later part whereof I allow as extant, but wish it confined to its proper place.

¶ [1] Nevertheless there remaineth yet another part of Natural Philosophy, which is commonly made a principal part, and holdeth rank with Physic special and Metaphysic; which is Mathematic; but I think it more agreeable to the nature of things and to the light of order to place it as a branch of Metaphysic; for the

[1] De Aug. iii. 6. Observe that in translating this part of the work Bacon has not only made great additions, but changed the order.

subject of it being Quantity; not Quantity indefinite, which is but a relative and belongeth to *philosophia prima* (as hath been said,) but Quantity determined or proportionable; it appeareth to be one of the Essential Forms of things; as that that is causative in nature of a number of effects; insomuch as we see in the schools both of Democritus and of Pythagoras, that the one *did ascribe figure to the first seeds of things*, and the other *did suppose numbers to be the principles and originals of things:* and it is true also that of all other forms (as we understand forms) it is the most abstracted and separable from matter, and therefore most proper to Metaphysic; which hath likewise been the cause why it hath been better laboured and enquired than any of the other forms, which are more immersed into matter. For it being the nature of the mind of man (to the extreme prejudice of knowledge) to delight in the spacious liberty of generalities, as in a champion region, and not in the inclosures of particularity; the Mathematics of all other knowledge were the goodliest fields to satisfy that appetite. But for the placing of this science, it is not much material:[1] only we have endeavoured in these our partitions to observe a kind of perspective, that one part may cast light upon another.

The Mathematics are either Pure or Mixed. To the Pure Mathematics are those sciences belonging which handle Quantity Determinate, merely severed from any axioms of natural philosophy; and these are two, Geometry and Arithmetic; the one handling

[1] In the *De Augmentis* he concludes by placing it as an appendix and auxiliary to Natural Philosophy, in order to mark more distinctly its proper function; which he complains that the mathematicians are apt to forget, and to exalt it, as the logicians exalt logic, above the sciences which it is its business to serve.

Quantity continued, and the other dissevered. Mixed hath for subject some axioms or parts of natural philosophy, and considereth Quantity determined, as it is auxiliary and incident unto them. For many parts of nature can neither be invented with sufficient subtilty nor demonstrated with sufficient perspicuity nor accommodated unto use with sufficient dexterity, without the aid and intervening of the Mathematics: of which sort are Perspective, Music, Astronomy, Cosmography, Architecture, Enginery, and divers others. In the Mathematics I can report no deficience, except it be that men do not sufficiently understand the excellent use of the Pure Mathematics, in that they do remedy and cure many defects in the wit and faculties intellectual. For if the wit be too dull, they sharpen it; if too wandering, they fix it; if too inherent in the sense, they abstract it. So that as tennis is a game of no use in itself, but of great use in respect it maketh a quick eye and a body ready to put itself into all postures; so in the Mathematics, that use which is collateral and intervenient is no less worthy than that which is principal and intended.[1] And as for the Mixed Mathe-

1 The whole of this passage relating to the use of pure mathematics in the training of the intellect is omitted in the translation; and the omission has been represented as indicating a change in Bacon's opinion either as to the value of this particular study in that respect, or as to the expediency of encouraging *any* study which is "useful only to the mind" of the student. This conjecture is hardly reconcilable however with the fact that the same recommendation of mathematics as a cure for certain defects of the intellect is repeated both in a later chapter of the *De Augmentis* (vi. 4; to which place indeed the observation properly belongs), and in the *Essay on Studies* as published in 1625. Nor is there any difficulty in accounting for the omission of it here. When Bacon wrote the *Advancement* in 1605, he had no deficiency to report in the department of Mathematics: he could not name any branch of the study which had not been properly pursued, and merely took the opportunity of observing by the way that the study of the pure mathematics had a collateral and incidental value as an in-

matics, I may only make this prediction, that there cannot fail to be more kinds of them, as nature grows further disclosed. Thus much of Natural Science, or the part of nature Speculative.

¶ [1] For Natural Prudence, or the part Operative of Natural Philosophy, we will divide it into three parts, Experimental, Philosophical, and Magical;[2] which three parts active have a correspondence and analogy with the three parts Speculative, Natural History, Physic, and Metaphysic. For many operations have been invented, sometimes by a casual incidence and occurrence, sometimes by a purposed experiment; and of those which have been found by an intentional experiment, some have been found out by varying or extending the same experiment, some by transferring and compounding divers experiments the one into the other, which kind of invention an empiric may manage.[3] Again, by the knowledge of physical causes there cannot fail to follow many indications and designations of new particulars, if men in their speculation will keep one eye upon use and practice. But these are but coastings along the shore, *premendo littus iniquum:* for it seemeth to me there can hardly be

strument of education: an observation very good and just in itself, but not at all to the purpose of the argument. When he revised the work in 1622 he knew more about mathematics, and was able to point out certain deficiencies which were very much to the purpose, — especially as to the doctrine of Solids in Geometry and of Series in Arithmetic; and in introducing a relevant observation he naturally struck out the irrelevant one.

[1] De Aug. iii. 5.

[2] In the translation the name *Natural Prudence* is omitted; the *part operative* is divided into two parts, instead of three; viz. Mechanic and Magic; and the whole exposition is much altered and enlarged.

[3] Being a matter of ingenuity and sagacity, rather than philosophy (*quæ magis ingeniosa res est et sagax, quam philosophica*). This is in fact the *Experientia Literata* of which we hear more further on.

discovered any radical or fundamental alterations and innovations in nature, either by the fortune and essays of experiments, or by the light and direction of physical causes. If therefore we have reported Metaphysic deficient, it must follow that we do the like of Natural Magic, which hath relation thereunto. For as for the Natural Magic whereof now there is mention in books, containing certain credulous and superstitious conceits and observations of Sympathies and Antipathies and hidden proprieties, and some frivolous experiments, strange rather by disguisement than in themselves; it is as far differing in truth of nature from such a knowledge as we require, as the story of king Arthur of Britain, or Hugh of Bourdeaux, differs from Cæsar's commentaries in truth of story. For it is manifest that Cæsar did greater things *de vero* than those imaginary heroes were feigned to do. But he did them not in that fabulous manner. Of this kind of learning the fable of Ixion was a figure, who designed to enjoy Juno, the goddess of power; and instead of her had copulation with a cloud, of which mixture were begotten centaurs and chimeras. So whosoever shall entertain high and vaporous imaginations instead of a laborious and sober inquiry of truth, shall beget hopes and beliefs of strange and impossible shapes. And therefore we may note in these sciences which hold so much of imagination and belief, as this degenerate Natural Magic, Alchemy, Astrology, and the like, that in their propositions the description of the means is ever more monstrous than the pretence or end. For it is a thing more probable, that he that knoweth well the natures of Weight, of Colour, of Pliant and Fragile in respect

Naturalis Magia, sive Physica Operativa Major.

of the hammer, of Volatile and Fixed in respect of the fire, and the rest, may superinduce upon some metal the nature and form of gold by such mechanique as belongeth to the production of the natures afore rehearsed, than that some grains of the medicine projected should in a few moments of time turn a sea of quicksilver or other material into gold. So it is more probable, that he that knoweth the nature of arefaction, the nature of assimilation of nourishment to the thing nourished, the manner of increase and clearing of spirits, the manner of the depredations which spirits make upon the humours and solid parts, shall by ambages of diets, bathings, anointings, medicines, motions, and the like, prolong life or restore some degree of youth or vivacity, than that it can be done with the use of a few drops or scruples of a liquor or receit. To conclude therefore, the true Natural Magic, which is that great liberty and latitude of operation which dependeth upon the knowledge of Forms, I may report deficient, as the relative thereof is. To which part, if we be serious and incline not to vanities and plausible discourse, besides the deriving and deducing the operations themselves from Metaphysic, there are pertinent two points of much purpose, the one by way of preparation, the other by way of caution. The first is, that there be made a *Calendar resembling an inventory*[1] of the estate of man, containing all the inventions (being the works or fruits of nature or art) which are now extant and whereof man is already possessed; out of which doth naturally result

Inventarium Opum humanarum.

[1] This is the Inventary which (as I think) was to be contained in the tenth chapter of the *Valerius Terminus*. See my note on Mr. Ellis's preface.

a note, what things are yet held impossible, or not invented; which calendar will be the more artificial and serviceable, if to every reputed impossibility you add what thing is extant which cometh the nearest in degree to that impossibility; to the end that by these optatives and potentials man's inquiry may be the more awake in deducing direction of works from the speculation of causes. And secondly, that those experiments be not only esteemed which have an immediate and present use, but those principally which are of most universal consequence for invention of other experiments, and those which give most light to the invention of causes; for the invention of the mariner's needle, which giveth the direction, is of no less benefit for navigation than the invention of the sails, which give the motion.[1]

[2] Thus have I passed through Natural Philosophy, and the deficiences thereof; wherein if I have differed from the ancient and received doctrines, and thereby shall move contradiction; for my part, as I affect not to dissent, so I purpose not to contend. If it be truth,

> Non canimus surdis, respondent omnia sylvæ:
> [All as we sing the listening woods reply:]

the voice of nature will consent, whether the voice of man do or no. And as Alexander Borgia was wont to say of the expedition of the French for Naples, that they came with chalk in their hands to mark up their

[1] This example is omitted in the translation, to make room for a better (with which Bacon was probably not acquainted in 1605) — the artificial congelation of water; an experiment which he especially valued as giving light as to the secret process of condensation.

[2] The passage corresponding to this paragraph concludes the third book of the *De Augmentis*. That which follows is transferred to the middle of the fourth chapter.

lodgings, and not with weapons to fight; so I like better that entry of truth which cometh peaceably with chalk to mark up those minds which are capable to lodge and harbour it, than that which cometh with pugnacity and contention.

[1] But there remaineth a division of Natural Philosophy according to the *report of the inquiry*, and nothing concerning the matter or subject; and that is Positive and Considerative; when the inquiry reporteth either an Assertion or a Doubt. These doubts or *non liquets* are of two sorts, Particular and Total. For the first, we see a good example thereof in Aristotle's Problems, which deserved to have had a better continuance, but so nevertheless as there is one point whereof warning is to be given and taken. The registering of doubts hath two excellent uses: the one, that it saveth philosophy from errors and falsehoods; when that which is not fully appearing is not collected into assertion, whereby error might draw error, but reserved in doubt: the other, that the entry of doubts are as so many suckers or spunges to draw use [2] of knowledge; insomuch as that which if doubts had not preceded a man should never have advised but passed it over without note, by the suggestion and solicitation of doubts is made to be attended and applied. But both these commodities do scarcely countervail an inconvenience which will intrude itself, if it be not debarred; which is, that when a doubt is once received men labour rather how to keep it a doubt still than how to solve it, and accordingly bend their wits.[3] Of this we see the famil-

[1] The substance of this paragraph will be found in the middle of the fourth chapter of the third book of the *De Augmentis* (Vol. II. p. 284).

[2] *i. e.* increase. (*quæ incrementa scientiæ perpetuo ad se sugant et alliciant.*)

[3] This is explained in the translation by adding that the recognition of

iar example in lawyers and scholars, both which if they have once admitted à doubt, it goeth ever after authorised for a doubt. But that use of wit and knowledge is to be allowed, which laboureth to make doubtful things certain, and not those which labour to make certain things doubtful. Therefore these *calendars of doubts* I commend as excellent things, so that there be this caution used, that when they be thoroughly sifted and brought to resolution, they be from thenceforth omitted, decarded, and not continued to cherish and encourage men in doubting. To which calendar of doubts or problems, I advise be annexed another calendar, as much or more material, which is *a calendar of popular errors:* I mean chiefly, in natural history [1] such as pass in speech and conceit, and are nevertheless apparently detected and convicted of untruth; that man's knowledge be not weakened nor imbased by such dross and vanity. As for the *doubts or non liquets general or in total*, I understand those differences of opinions touching the principles of nature and the fundamental points of the same, which have caused the diversity of sects, schools, and philosophies; as that of Empedocles, Pythagoras, Democritus, Parmenides, and the rest.[2] For although Aristotle, as though he had been of the race of the Ottomans, thought he could not reign except the first thing he did he killed all his brethren; yet to those that seek truth and not magistrality, it cannot but seem a matter of great profit to see before them the several

Continuatio Problematum in Natura.

Catalogus Falsitatum grassantium in historia Naturæ.

the doubt has the effect of raising champions to maintain each side, and so keeping it up.

[1] *vel in Historia Naturali*, vel in Dogmatibus. — *De Aug.*

[2] In the translation *Empedocles* is omitted; and *Philolaus*, *Xenophanes*, *Anaxagoras*, *Leucippus*, added.

opinions touching the foundations of nature; not for any exact truth that can be expected in those theories; for as the same phænomena in astronomy are satisfied by the received astronomy of the diurnal motion and the proper motions of the planets with their eccentrics and epicycles and likewise by the theory of Copernicus who supposed the earth to move; and the calculations are indifferently agreeable to both; so the ordinary face and view of experience is many times satisfied by several theories and philosophies; whereas to find the real truth requireth another manner of severity and attention. For as Aristotle saith that children at the first will call every woman mother, but afterward they come to distinguish according to truth; so experience, if it be in childhood, will call every philosophy mother, but when it cometh to ripeness it will discern the true mother. So as in the mean time it is good to see the several glosses and opinions upon nature, whereof it may be every one in some one point hath seen clearer than his fellows. Therefore I wish some collection to be made painfully and understandingly *de antiquis philosophiis*, out of all the possible light which remaineth to us of them.[1] Which kind of work I find deficient. But here I must give warning, that it be done distinctly and severely;[2] the philosophies of every one throughout by themselves; and not by titles packed and faggoted up together, as hath been done by Plutarch. For it is the harmony of a philosophy in itself which giveth it light and credence;

De Antiquis Philosophiis.

[1] Such (according to the translation) as the Lives of the ancient Philosophers, Plutarch's collection of placita, Plato's quotations, Aristotle's confutations, and the scattered notices in Lactantius, Philo, Philostratus, &c.

[2] So both in the original and in ed. 1633; perhaps a misprint for "severally." Ed. 1629 has *severedly*. The translation has *distinctè* only.

whereas if it be singled and broken, it will seem more foreign and dissonant. For as when I read in Tacitus the actions of Nero or Claudius, with circumstances of times, inducements, and occasions, I find them not so strange; but when I read them in Suetonius Tranquillus gathered into titles and bundles, and not in order of time, they seem more monstrous and incredible; sc is it of any philosophy reported entire, and dismembered by articles. Neither do I exclude opinions of latter times to be likewise represented in this calendar of sects of philosophy, as that of Theophrastus Paracelsus, eloquently reduced into an harmony by the pen of Severinus the Dane; and that of Telesius, and his scholar Donius, being as a pastoral philosophy, full of sense but of no great depth; and that of Fracastorius, who though he pretended not to make any new philosophy, yet did use the absoluteness of his own sense upon the old; and that of Gilbertus our countryman, who revived, with some alterations and demonstrations, the opinions of Xenophanes;[1] and any other worthy to be admitted.

Thus have we now dealt with two of the three beams of man's knowledge; that is *Radius Directus*, which is referred to nature, *Radius Refractus*, which is referred to God, and cannot report truly because of

[1] This passage is considerably altered in the translation, and the differences are worth noticing as bearing upon the course of Bacon's reading and the development of his views in the interval. After the notice of Paracelsus the translation proceeds "or of Telesius of Consentium, *who revived the philosophy of Parmenides and so turned the arms of the Peripatetics against themselves*; or of *Patricius the Venetian, who sublimated the fumes of the Platonists*; or of our countryman Gilbert, who set up again the *doctrines of Philolaus*." The names of *Donius*, *Fracastorius*, and *Xenophanes* are entirely omitted. I do not know whether Mr. Ellis's attention had been directed to these changes.

the inequality of the medium. There resteth *Radius Reflexus* whereby Man beholdeth and contemplateth himself.

¶ [1] We come therefore now to that knowledge whereunto the ancient oracle directeth us, which is *the knowledge of ourselves;* which deserveth the more accurate handling, by how much it toucheth us more nearly. This knowledge, as it is the end and term of natural philosophy in the intention of man, so notwithstanding it is but a portion of natural philosophy in the continent of nature. And generally let this be a rule, that all partitions of knowledges be accepted rather for lines and veins, than for sections and separations; and that the continuance and entireness of knowledge be preserved. For the contrary hereof hath made particular sciences to become barren, shallow, and erroneous; while they have not been nourished and maintained from the common fountain. So we see Cicero the orator complained of Socrates and his school, that he was the first that separated philosophy and rhetoric; whereupon rhetoric became an empty and verbal art. So we may see that the opinion of Copernicus touching the rotation of the earth,[2] which astronomy itself cannot correct because it is not repugnant to any of the phænomena, yet natural philosophy may correct. So we see also that the science of medicine, if it be destituted and forsaken by natural philosophy, it is not much better than an empirical practice. With this reservation therefore we proceed to Human Philosophy

[1] De Aug. iv. 1. The whole of this chapter is much altered and enlarged; rewritten rather than translated.

[2] The translation adds, *quæ nunc quoque invaluit.*

or Humanity, which hath two parts: the one considereth man segregate, or distributively; the other congregate, or in society. So as Human Philosophy is either Simple and Particular, or Conjugate and Civil. Humanity Particular consisteth of the same parts whereof man consisteth; that is, of knowledges which respect the Body, and of knowledges that respect the Mind. But before we distribute so far, it is good to constitute. For I do take the consideration in general and at large of Human Nature to be fit to be emancipate and made a knowledge by itself; not so much in regard of those delightful and elegant discourses which have been made of the dignity of man,[1] of his miseries, of his state and life, and the like *adjuncts of his common and undivided nature;* but chiefly in regard of the knowledge concerning the *sympathies and concordances between the mind and body*, which, being mixed, cannot be properly assigned to the sciences of either.

This knowledge hath two branches: for as all leagues and amities consist of mutual Intelligence and mutual Offices, so this league of mind and body hath these two parts; *how the one discloseth the other*, and *how the one worketh upon the other;* Discovery, and Impression. The former of these hath begotten two arts, both of Prediction or Prenotion; whereof the one is honoured with the inquiry of Aristotle, and the other of Hippocrates. And although they have of later time been used to be coupled with superstitious and fantastical

[1] In the *De Augmentis* this part is numbered among the Desiderata. The *miseries* of man, he says, have been well set forth both by philosophers and theologians; but of what he calls the *triumphs* of man, (that is, instances of the highest perfection which the human faculties, mental or bodily, have exhibited,) he wishes a collection to be made from history; and gives a page or two of anecdotes by way of example.

arts, yet being purged and restored to their true state, they have both of them a solid ground in nature, and a profitable use in life. The first is Physiognomy, which discovereth the disposition of the mind by the lineaments of the body. The second is the Exposition of Natural Dreams, which discovereth the state of the body by the imaginations of the mind. In the former of these I note a deficience.[1] For Aristotle hath very ingeniously and diligently handled the factures of the body, but not the gestures of the body, which are no less comprehensible by art, and of greater use and advantage. For the Lineaments of the body do disclose the disposition and inclination of the mind in general; but the Motions of the countenance and parts do not only so, but do further disclose the present humour and state of the mind and will. For as your Majesty saith most aptly and elegantly, *As the tongue speaketh to the ear, so the gesture speaketh to the eye.* And therefore a number of subtile persons, whose eyes do dwell upon the faces and fashions of men, do well know the advantage of this observation, as being most part of their ability; neither can it be denied but that it is a great discovery of dissimulations, and a great direction in business.

The latter branch, touching Impression, hath not been collected into art, but hath been handled dispersedly; and it hath the same relation or antistrophe

[1] With regard to the latter, of which nothing more is said here, he observes in the *De Augmentis* that the treatment it has received is full of follies, and not grounded upon the most solid basis, — which is that when the same sensation is produced in the sleeper by an internal cause which is usually the effect of some external act, he will dream of that act; as in the case of nightmare, where the sensation of oppression on the stomach created by the fumes of indigestion makes a man dream that his body is oppressed by a weight superimposed.

that the former hath. For the consideration is double: Either *how, and how far the humours and affects*[1] *of the body do alter or work upon the mind;* or again, *how and how far the passions or apprehensions of the mind do alter or work upon the body.* The former of these hath been inquired and considered as a part and appendix of Medicine, but much more as a part of Religion or Superstition. For the physician prescribeth cures of the mind in phrensies and melancholy passions; and pretendeth also to exhibit medicines to exhilarate the mind, to confirm the courage, to clarify the wits, to corroborate the memory, and the like; but the scruples and superstitions of diet and other regiment of the body in the sect of the Pythagoreans, in the heresy of the Manicheans, and in the law of Mahomet, do exceed. So likewise the ordinances in the Ceremonial Law, interdicting the eating of the blood and the fat, distinguishing between beasts clean and unclean for meat, are many and strict. Nay the faith itself being clear and serene from all clouds of Ceremony, yet retaineth the use of fastings, abstinences, and other macerations and humiliations of the body, as things real, and not figurative.[2] The root and life of all which prescripts is, (besides the ceremony,[3]) the consideration of that dependency which the affections of the mind are submitted unto upon the state and disposition of the body. And if any man of weak judgment do conceive that this suffering of the mind from the body doth either question the immortality or derogate from the sovereignty of the soul, he may be

[1] *temperamentum.* — De Aug.

[2] *tanquam rerum non mere ritualium sed etiam fructuosarum.* — De Aug.

[3] The translation adds, "and the exercise of obedience."

taught in easy instances, that the infant in the mother's womb is compatible with the mother[1] and yet separable; and the most absolute monarch is sometimes led by his servants and yet without subjection. As for the reciprocal knowledge, which is the operation of the conceits and passions of the mind upon the body, we see all wise physicians in the prescriptions of their regiments to their patients do ever consider *accidentia animi*, as of great force to further or hinder remedies or recoveries; and more specially it is an inquiry of great depth and worth concerning Imagination, how and how far it altereth the body proper of the imaginant. For although it hath a manifest power to hurt, it followeth not it hath the same degree of power to help; no more than a man can conclude, that because there be pestilent airs, able suddenly to kill a man in health, therefore there should be sovereign airs, able suddenly to cure a man in sickness. But the inquisition of this part is of great use, though it needeth, as Socrates said, *a Delian diver*, being difficult and profound. But unto all this knowledge *de communi vinculo*, of the concordances between the mind and the body, that part of inquiry is most necessary, which considereth of the *seats* and *domiciles* which the several faculties of the mind do take and occupate in the organs of the body; which knowledge hath been attempted, and is controverted, and deserveth to be much better enquired. For the opinion of Plato, who placed *the understanding in the brain*, *animosity* (which he did unfitly call *anger*, having a greater mixture with *pride*) *in the heart*, and *concupiscence or sensuality*

[1] i. e. suffers together with the mother: *simul cum matribus affectibus compatitur*.

in the liver, deserveth not to be despised; but much less to be allowed.[1] So then we have constituted (as in our own wish and advice) the inquiry *touching human nature entire*, as a just portion of knowledge to be handled apart.

¶ [2] The knowledge that concerneth man's body is divided as the good of man's body is divided, unto which it referreth. The good of man's body is of four kinds, Health, Beauty, Strength, and Pleasure: so the knowledges are Medicine, or art of Cure; art of Decoration, which is called Cosmetic; art of Activity, which is called Athletic; and art Voluptuary, which Tacitus truly calleth *eruditus luxus*, [educated luxury]. This subject of man's body is of all other things in nature most susceptible of remedy; but then that remedy is most susceptible of error. For the same subtility of the subject doth cause large possibility and easy failing; and therefore the inquiry ought to be the more exact.

To speak therefore of Medicine, and to resume that we have said, ascending a little higher: The ancient opinion that man was Microcosmus, an abstract or model of the world, hath been fantastically strained by Paracelsus and the alchemists, as if there were to be found in man's body certain correspondences and parallels, which should have respect to all varieties of things, as stars, planets, minerals, which are extant in the great world. But thus much is evidently true, that of all substances which nature hath produced, man's body is the most extremely compounded. For

[1] Neither (he adds in the translation) is that other arrangement free from error, which places the several intellectual faculties, Imagination, Reason, and Memory, in the several ventricles of the brain.

[2] De Aug. iv. 2.

we see herbs and plants are nourished by earth and water; beasts for the most part by herbs and fruits; man by the flesh of beasts, birds, fishes, herbs, grains, fruits, water, and the manifold alterations, dressings, and preparations of these several bodies, before they come to be his food and aliment. Add hereunto that beasts have a more simple order of life, and less change of affections to work upon their bodies; whereas man in his mansion, sleep, exercise, passions, hath infinite variations; and it cannot be denied but that the Body of man of all other things is of the most compounded mass. The Soul on the other side is the simplest of substances, as is well expressed,

Purumque reliquit
Æthereum sensum atque aurai simplicis ignem:
[Pure and unmixed
The etherial sense is left — mere air and fire.]

So that it is no marvel though the soul so placed enjoy no rest, if that principle be true that *Motus rerum est rapidus extra locum, placidus in loco:* [things move rapidly to their place and calmly in their place]. But to the purpose. This variable composition of man's body hath made it as an instrument easy to distemper; and therefore the poets did well to conjoin Music and Medicine in Apollo: because the office of medicine is but to tune this curious harp of Man's body and to reduce it to harmony. So then the subject being so variable hath made the art by consequent more conjectural; and the art being conjectural hath made so much the more place to be left for imposture. For almost all other arts and sciences are[1] judged by acts or masterpieces,[2] as I may term them, and not by the

[1] So edd. 1629 and 1633. The original omits *are*.
[2] *virtute sua et functione.* — De Aug.

successes and events. The lawyer is judged by the virtue of his pleading, and not by the issue of the cause. The master in the ship is judged by the directing his course aright, and not by the fortune of the voyage. But the physician, and perhaps the politique, hath no particular acts demonstrative of his ability, but is judged most by the event; which is ever but as it is taken: for who can tell, if a patient die or recover, or if a state be preserved or ruined, whether it be art or accident? And therefore many times the impostor is prized, and the man of virtue taxed. Nay, we see [the[1]] weakness and credulity of men is such, as they will often prefer a montabank[2] or witch before a learned physician. And therefore the poets were clear-sighted in discerning this extreme folly, when they made Æsculapius and Circe brother and sister, both children of the sun, as in the verses,

> Ipse repertorem medicinæ talis et artis
> Fulmine *Phœbigenam* Stygias detrusit ad undas:
> [*Apollo's son* from whom that art did grow
> Jove struck with thunder to the shades below].

And again,

> Dives inaccessos ubi *Solis filia* lucos, &c.
> [Now by the shelves of Circe's coast they run,—
> Circe the rich, the *daughter of the sun*.[3]]

For in all times, in the opinion of the multitude, witches and old women and impostors have had a competition with physicians. And what followeth? Even this, that physicians say to themselves, as Salo-

[1] *the* omitted both in the original and in edd. 1629 and 1633.

[2] This is the spelling of the old editions; and ought apparently to be revived by those who believe that our orthography is the guardian of our etymologies.

[3] Dryden.

mon expresseth it upon an higher occasion; *If it befal to me as befalleth to the fools, why should I labour to be more wise?* And therefore I cannot much blame physicians, that they use commonly to intend some other art or practice, which they fancy, more than their profession. For you shall have of them antiquaries, poets, humanists, statesmen, merchants, divines, and in every of these better seen than in their profession; and no doubt upon this ground, that they find that mediocrity and excellency in their art maketh no difference in profit or reputation towards their fortune; for the weakness of patients and sweetness of life and nature of hope[1] maketh men depend upon physicians with all their defects. But nevertheless these things which we have spoken of are courses begotten between a little occasion and a great deal of sloth and default; for if we will excite and awake our observation, we shall see in familiar instances what a predominant faculty the *subtilty of spirit*[2] hath over the *variety of matter or form.* Nothing more variable than faces and countenances; yet men can bear in memory the infinite distinctions of them; nay, a painter with a few shells of colours, and the benefit of his eye and habit of his imagination, can imitate them all that ever have been, are, or may be, if they were brought before him. Nothing more variable than voices; yet men can likewise discern them personally; nay, you shall have a *buffon* or *pantomimus* will express as many as he pleaseth. Nothing more variable than the differing sounds of words; yet men have found the way to reduce them to a few simple letters. So that it is not *the*

[1] The translation adds *et amicorum commendatio.*

[2] i. e. of the understanding: *intellectûs subtilitas et acumen.*

insufficiency or incapacity of man's mind, but it is *the remote standing or placing thereof*, that breedeth these mazes and incomprehensions: for as the sense afar off is full of mistaking but is exact at hand, so is it of the understanding; the remedy whereof is not to quicken or strengthen the organ, but to go nearer to the object; and therefore there is no doubt but if the physicians will learn and use the true approaches and avenues of nature, they may assume as much as the poet saith:

Et quoniam variant morbi, variabimus artes;
Mille mali species, mille salutis erunt:

[varying their arts according to the variety of diseases, — for a thousand forms of sickness a thousand methods of cure]. Which that they should do, the nobleness of their art doth deserve; well shadowed by the poets, in that they made Æsculapius to be the son of the Sun, the one being the fountain of life, the other as the second stream; but infinitely more honoured by the example of our Saviour, who made the body of man the object of his miracles, as the soul was the object of his doctrine. For we read not that ever he vouchsafed to do any miracle about honour, or money (except that one for giving tribute to Cæsar), but only about the preserving, sustaining, and healing the body of man.

Medicine is a science which hath been (as we have said) more professed than laboured, and yet more laboured than advanced; the labour having been, in my judgment, rather in circle than in progression. For I find much iteration, but small addition. It considereth *causes of diseases*, with the *occasions or impulsions;* the *diseases themselves*, with the *accidents;* and

the *cures*, with the *preservations*.[1] The deficiencies which I think good to note, being a few of many, and those such as are of a more open and manifest nature, I will enumerate, and not place.

Narrationes medicinales.

The first is the discontinuance of the ancient and serious diligence of Hippocrates, which used to set down a narrative of the special cases of his patients, and how they proceeded, and how they were judged by recovery or death. Therefore having an example proper in the father of the art, I shall not need to allege an example foreign, of the wisdom of the lawyers, who are careful to report new cases and decisions for the direction of future judgments. This continuance of Medicinal History I find deficient; which I understand neither to be so infinite as to extend to every common case, nor so reserved as to admit none but wonders: for many things are new in the manner, which are not new in the kind; and if men will intend to observe, they shall find much worthy to observe.

Anatomia comparata.

In the inquiry which is made by Anatomy I find much deficience: for they inquire of the *parts*, and their *substances*, *figures*, and *collocations;* but they inquire not of the *diversities of the parts*,[2] the *secrecies of the passages*, and the *seats or*

[1] Here the translation departs widely from the original. The parts, or offices, into which Medicine is divided in the *De Augmentis* are: 1. the preservation of health; 2. the cure of diseases; 3. the prolongation of life: with regard to the first of which Bacon complains that physicians have treated it in several respects unskilfully or imperfectly; and with regard to the last that they have not recognised the prolongation of natural life as a principal part of their science, being satisfied if they can prevent it from being shortened by diseases. Under the second he includes the whole doctrine of diseases, — the causes, the symptoms, and the remedies, all in fact that is here included under the general head of Medicine, — and so strikes again into the text.

[2] *i. e.* they inquire of the parts, &c., of the human body in general, but

nestling of the humours, nor much of the *footsteps and impressions of diseases:* the reason of which omission I suppose to be, because the first inquiry may be satisfied in the view of one or a few anatomies; but the latter, being comparative and casual, must arise from the view of many. And as to the diversity of parts, there is no doubt but the facture or framing of the inward parts is as full of difference as the outward, and in that is the *cause continent* of many diseases; which not being observed, they quarrel many times with the humours, which are not in fault; the fault being in the very frame and mechanic of the part, which cannot be removed by medicine alterative, but must be accommodate and palliate by diets and medicines familiar. And for the passages and pores, it is true which was anciently noted, that the more subtle of them appear not in anatomies, because they are shut and latent in dead bodies, though they be open and manifest in live: which being supposed, though the inhumanity of *anatomia vivorum* [anatomy of the living subject] was by Celsus justly reproved; yet in regard of the[1] great use of this observation, the inquiry needed not by him so slightly to have been relinquished altogether, or referred to the casual practices of surgery; but might have been well diverted upon the dissection of beasts alive, which notwithstanding the dissimilitude of their parts, may sufficiently satisfy this inquiry. And for the humours, they are commonly passed over in anatomies as purgaments; whereas it is most necessary to observe what cavities, nests,

not of the diversities of the parts in different bodies, — of simple, but not of comparative, anatomy. This whole paragraph is much enlarged in the translation, and the order changed.

[1] So edd. 1629 and 1633. The original omits *the*.

and receptacles the humours do find in the parts, with the differing kind of the humour so lodged and received. And as for the footsteps of diseases, and their devastations of the inward parts, imposthumations, exulcerations, discontinuations, putrefactions, consumptions, contractions, extensions, convulsions, dislocations, obstructions, repletions, together with all preternatural substances, as stones, carnosities, excrescences, worms, and the like; they ought to have been exactly observed by multitude of anatomies and the contribution of men's several experiences, and carefully set down both historically according to the appearances, and artificially with a reference to the diseases and symptoms which resulted from them, in case where the anatomy is of a defunct patient; whereas now upon opening of bodies they are passed over slightly and in silence.

Inquisitio ulterior de Morbis insanabilibus.

In the inquiry of diseases, they do abandon the cures of many, some as in their nature incurable, and others as past the period of cure; so that Sylla and the triumvirs never proscribed so many men to die, as they do by their ignorant edicts; whereof[1] numbers do escape with less difficulty than they did in the Roman proscriptions. Therefore I will not doubt to note as a deficience, that they inquire not the perfect cures of many diseases, or extremities of diseases, but pronouncing them incurable do enact a law of neglect, and exempt ignorance from discredit.

De Euthanasia exteriore.

Nay further, I esteem it the office of a physician not only to restore health, but to mitigate pain and dolors; and not only when such mitigation may conduce to recovery, but when it

[1] *i. e.* of whom nevertheless: *quorum tamen plurimi &c.* — De Aug.

may serve to make a fair and easy passage: for it is no small felicity which Augustus Cæsar was wont to wish to himself, that same *Euthanasia;* and which was specially noted in the death of Antoninus Pius, whose death was after the fashion and semblance of a kindly and pleasant sleep. So it is written of Epicurus, that after his disease was judged desperate, he drowned his stomach and senses with a large draught and ingurgitation of wine; whereupon the epigram was made, *Hinc stygias ebrius hausit aquas;* he was not sober enough to taste any bitterness of the Stygian water. But the physicians contrariwise do make a kind of scruple and religion to stay with the patient after the disease is deplored; whereas, in my judgment, they ought both to enquire the skill and to give the attendances for the facilitating and assuaging of the pains and agonies of death.

Medicina Experimentales.

In the consideration of the Cures of diseases, I find a deficience in the receipts of propriety respecting the particular cures of diseases:[1] for the physicians have frustrated the fruit of tradition and experience by their magistralities, in adding and taking out and changing *quid pro quo* in their receipts, at their pleasures; commanding so over the medicine as the medicine cannot command over the disease. For except it be treacle and mithridatum, and of late *diascordium*,[2] and a few more, they tie themselves to no receipts severely and religiously: for as to the confections of sale which are in the shops, they are for readiness and not for pro-

[1] *i. e.* the particular medicines proper for particular diseases, as distinguished from "general intentions."

[2] In the translation he adds "the confection of Alkermes."

priety; for they are upon general intentions of purging, opening, comforting, altering, and not much appropriate to particular diseases: and this is the cause why empirics and old women are more happy many times in their cures than learned physicians, because they are more religious in holding their medicines. Therefore here is the deficience which I find, that physicians have not, partly out of their own practice, partly out of the constant probations reported in books, and partly out of the traditions of empirics, set down and delivered over certain *experimental medicines* for the cure of particular diseases, besides their own *conjectural* and *magistral descriptions*. For as they were the men of the best composition in the state of Rome, which either being consuls inclined to the people, or being tribunes inclined to the senate; so in the matter we now handle, they be the best physicians, which being learned incline to the traditions of experience, or being empirics incline to the methods of learning.

Imitatio Naturæ in Balneis et Aquis Medicinalibus.

In preparation of Medicines, I do find strange, specially considering how mineral medicines have been extolled, and that they are safer for the outward than inward parts, that no man hath sought to make an imitation by art of Natural Baths and Medicinable Fountains; which nevertheless are confessed to receive their virtues from minerals: and not so only, but discerned and distinguished from what particular mineral they receive tincture, as sulphur, vitriol, steel, or the like; which nature if it may be reduced to compositions of art, both the variety of them will be increased, and the temper of them will be more commanded.[1]

[1] So edd. 1629 and 1633. The original has *commended*.

But lest I grow to be more particular than is agreeable either to my intention or to proportion, I will conclude this part with the note of one deficience more, which seemeth to me of greatest consequence; which is, that the prescripts in use are too compendious to attain their end: for, to my understanding, it is a vain and flattering opinion to think any medicine can be so sovereign or so happy, as that the receit or use of it can work any great effect upon the body of man. It were a strange speech which spoken, or spoken oft, should reclaim a man from a vice to which he were by nature subject. It is order, pursuit, sequence, and interchange of application, which is mighty in nature; which although it require more exact knowledge in prescribing and more precise obedience in observing, yet is recompensed with the magnitude of effects. And although a man would think, by the daily visitations of the physicians, that there were a pursuance in the cure; yet let a man look into their prescripts and ministrations, and he shall find them but inconstancies and every day's devices, without any settled providence or project. Not that every scrupulous or superstitious prescript is effectual, no more than every straight way is the way to heaven; but the *truth of the direction* must precede *severity of observance*.[1]

Filum Medicinale, sive de vicibus Medicinarum.

[1] The latter part of this paragraph is considerably enlarged in the translation, rather however by way of explanation than addition, till he comes to the end; when in closing his account of the *Desiderata* in the science of curing diseases, he adds that there is however one other remaining which is of more consequence than all the rest — namely that of a true and active Natural Philosophy for the Science of Medicine to be built upon.

Between this paragraph and the next is interposed a long passage upon the prolongation of life, of which there are no traces at all here.

For Cosmetic, it hath parts civil, and parts effeminate: for cleanness of body was ever esteemed to proceed from a due reverence to God, to society, and to ourselves.[1] As for artificial decoration, it is well worthy of the deficiencies which it hath; being neither fine enough to deceive, nor handsome to use, nor wholesome to please.[2]

For Athletic, I take the subject of it largely; that is to say, for any point of ability whereunto the body of man may be brought, whether it be of *activity* or of *patience;* whereof activity hath two parts, *strength* and *swiftness;* and patience likewise hath two parts, *hardness against wants and extremities*, and *indurance of pain or torment:* whereof we see the practices in tumblers, in savages,[3] and in those that suffer punishment: nay, if there be any other faculty which falls not within any of the former divisions, as in those that dive, that obtain a strange power of containing respiration, and the like, I refer it to this part. Of these things the practices are known, but the philosophy that concerneth them is not much enquired; the rather, I think, because they are supposed to be obtained either by an aptness of nature, which cannot be taught, or only by continual custom, which is soon prescribed; which though it be not true, yet I forbear to note any

[1] To whom (he adds in the translation) we owe no less reverence — nay even more — than to others. So in the *New Atlantis*, "and they say (i. e. the people of Bensalem) that the reverence of a man's self is, next to Religion, the chiefest bridle of all vices."

[2] So all the editions. He must have means to write, "handsome to please, nor wholesome to use."

By artificial decoration he means painting the face, as we learn from the translation; where he expresses wonder that this *prava consuetudo fucandi* is not prohibited by the laws, along with sumptuous apparel and lovelocks.

[3] The translation adds "in the stupendous strength shown by maniacs."

deficiencies; for the Olympian Games are down long since, and the mediocrity of these things is for use; as for the excellency of them, it serveth for the most part but for mercenary ostentation.

For Arts of Pleasure Sensual, the chief deficience in them is of laws to repress them.[1] For as it hath been well observed that the arts which flourish in times while virtue is in growth, are military; and while virtue is in state, are liberal; and while virtue is in declination, are voluptuary; so I doubt that this age of the world is somewhat upon the descent of the wheel. With arts *voluptuary* I couple practices *joculary;* for the deceiving of the senses is one of the pleasures of the senses. As for games of recreation, I hold them to belong to civil life and education.[2]

[1] Here we have an important addition in the translation. Whether when he wrote the *Advancement of Learning* Bacon had forgotten Painting and Music or meant to find another place for them, I cannot say; but in the *De Augmentis* he includes them among the *Artes Voluptariæ;* which he cannot have intended to do when he wrote this sentence. The passage in which they are introduced is to this effect: — The arts of pleasure, he says, are as many as the senses themselves are. To the eye belongs Painting, with innumerable other arts of magnificence in matter of Buildings, Gardens, Dresses, Vases, Gems, &c.; to the ear Music, with its various apparatus of voices, wind, and strings; and of all the sensual arts those which relate to Sight and Hearing are accounted the most liberal; for as these two senses are the purest and most chaste, so the sciences which belong to them are the most learned; both being waited upon by the Mathematics, and one having some relation to memory and demonstrations, the other to manners and affections of the mind. The rest of the sensual pleasures, with the arts appertaining to them, are held in less honour, as being nearer akin to luxury and magnificence. Unguents, perfumes, delicacies of the table, and especially stimulants of lust, stand more in need of a censor to repress than a master to teach them; and as it has been well observed, &c.

[2] This observation is omitted in the translation; and a new paragraph is introduced, stating that everything which relates to the body of man (though there be some which do not properly belong to either of the three offices above mentioned, viz. the preservation of health, the cure of diseases and the prolongation of life) is to be considered as included in Medicine.

And thus much of that particular Human Philosophy which concerns the Body, which is but the tabernacle of the mind.

¶ [1] For Human Knowledge which concerns the Mind, it hath two parts; the one that enquireth of *the substance or nature of the soul or mind*, the other that enquireth of *the faculties or functions thereof*. Unto the first of these, the considerations of *the original of the soul*, whether it be *native or adventive*, and *how far it is exempted from laws of matter*, and of the *immortality thereof*, and many other points, do appertain: which have been not more laboriously enquired than variously reported; so as the travail therein taken seemeth to have been rather in a maze than in a way. But although I am of opinion that this knowledge may be more really and soundly enquired, even in nature, than it hath been; yet I hold that in the end it must be bounded by religion, or else it will be subject to deceit and delusion; for as the substance of the soul in the creation was not extracted out of the mass of heaven and earth by the benediction of a *producat*, but was immediately inspired from God; so it is not possible that it should be (otherwise than by accident) subject to *the laws of heaven and earth*, which are *the subject of philosophy;* and therefore the true knowledge of the nature and state of the soul, must come by the same inspiration that gave the substance.[2] Unto this part

[1] De Aug. iv. 3.

[2] In the translation a new division is introduced which does not appear to be distinctly recognized here — the human soul being divided into Rational and Irrational; the one divine and peculiar to humanity, the other (which is merely its instrument) being of the earth and common to man and brute; and the remark in the text is confined to the first of these only.

of knowledge touching the soul there be two appendices; which, as they have been handled, have rather vapoured forth fables than kindled truth; Divination and Fascination.

Divination hath been anciently and fitly divided into *artificial* and *natural;* whereof *artificial* is when the mind maketh a prediction by argument, concluding upon signs and tokens; *natural* is when the mind hath a presention by an internal power, without the inducement of a sign. Artificial is of two sorts; either when the argument is coupled with a derivation of causes, which is *rational;* or when it is only grounded upon a coincidence of the effect, which is *experimental:* whereof the later for the most part is superstitious; such as were the heathen observations upon the inspection of sacrifices, the flights of birds, the swarming of bees; and such as was the Chaldean Astrology, and the like. For *artificial divination*, the several kinds thereof are distributed amongst particular knowledges. The Astronomer hath his predictions, as of conjunctions, aspects, eclipses, and the like. The Physician hath his predictions, of death, of recovery, of the accidents and issues of diseases. The Politique hath his predictions; *O urbem venalem, et cito perituram, si emptorem invenerit!* [a city in which all things are for sale and which will fall to the first purchaser,] which stayed not long to be performed, in Sylla first, and after in Cæsar. So as these predictions are now impertinent, and to be referred over. But the divination which

The other soul, which he calls the *anima sensibilis sive producta*, is represented as a fit subject of physical enquiry, in its nature and substance as well as in its faculties; though the enquiry has not been well pursued with regard to either. Concerning the doctrine of the Duality of the Soul see Mr. Ellis's General Introduction, § 14.

springeth from the internal nature of the soul, is that which we now speak of; which hath been made to be of two sorts, *primitive* and by *influxion*. Primitive is grounded upon the supposition that the mind, when it is withdrawn and collected into itself and not diffused into the organs of the body, hath some extent and latitude of prenotion; which therefore appeareth most in sleep, in extasies, and near death; and more rarely in waking apprehensions; and is induced and furthered by those abstinences and observances which make the mind most to consist in itself. By influxion, is grounded upon the conceit that the mind, as a mirror or glass, should take illumination from the foreknowledge of God and spirits; unto which the same regiment doth likewise conduce. For the retiring of the mind within itself is the state which is most susceptible of divine influxions; save that it is accompanied in this case with a fervency and elevation (which the ancients noted by *fury*), and not with a repose and quiet, as it is in the other.

Fascination is the power and act of imagination, intensive upon other bodies than the body of the imaginant: for of that we spake in the proper place: wherein the school of Paracelsus and the disciples of pretended Natural Magic have been so intemperate, as they have exalted the power of the imagination to be much one with the power of miracle-working faith; others that draw nearer to probability, calling to their view the secret passages of things, and especially of the contagion that passeth from body to body,[1] do conceive it should likewise be agreeable to nature that there should

[1] In the translation he adds "the irradiations of the senses, and the conveyance of magnetic virtues."

be some transmissions and operations from spirit to spirit, without the mediation of the senses; whence the conceits have grown (now almost made civil) of the Mastering Spirit, and the force of confidence, and the like. Incident unto this is the inquiry how to raise and fortify the imagination; for if the imagination fortified have power, then it is material to know how to fortify and exalt it. And herein comes in crookedly and dangerously a palliation of a great part of Ceremonial Magic. For it may be pretended that Ceremonies, Characters, and Charms, do work not by any tacit or sacramental contract with evil spirits, but serve only to strengthen the imagination of him that useth it; as images are said by the Roman church [1] to fix the cogitations and raise the devotions of them that pray before them. But for mine own judgment, if it be admitted that imagination hath power, and that Ceremonies fortify imagination, and that they be used sincerely and intentionally for that purpose;[2] yet I should hold them unlawful, as opposing to that first edict which God gave unto man, *In sudore vultus comedes panem tuum*, [in the sweat of thy brow shalt thou eat bread]. For they propound those noble effects which God hath set forth unto man to be bought at the price of labour, to be attained by a few easy and slothful observances. Deficiences in these knowledges I will report none, other than the general deficience, that it is not known how much of them is verity and how much vanity.[3]

[1] In the translation, the words "said by the Roman church" are omitted, and *in Religione usus imaginum . . . . invaluit* are substituted. See note p. 109.

[2] *i. e.* as a physical remedy, without any thought of inviting thereby the assistance of spirits,—as explained in the translation.

[3] This sentence is omitted in the translation altogether; and the chapter

¶ [1] The knowledge which respecteth the Faculties of the Mind of man is of two kinds; the one respecting his Understanding and Reason, and the other his Will, Appetite, and Affection; whereof the former produceth Position or Decree, the later Action or Execution. It is true that the Imagination is an agent or *nuncius* in both provinces, both the judicial and the ministerial. For Sense sendeth over to Imagination before Reason have judged: and Reason sendeth over to Imagination before the Decree can be acted; for Imagination ever precedeth Voluntary Motion: saving that this Janus of Imagination hath differing faces; for the face towards Reason hath the print of Truth, but the face towards Action hath the print of Good; which nevertheless are faces,

Quales decet esse sororum, —

[sister-faces]. Neither is the Imagination simply and only a messenger; but is invested with or at leastwise usurpeth no small authority in itself, besides the duty of the message. For it was well said by Aristotle, *That the mind hath over the body that commandment, which the lord hath over a bondman; but that reason hath over the imagination that commandment which a magistrate hath over a free citizen;* who may come also to rule in his turn. For we see that in matters of Faith and Religion we raise our Imagination above our Reason; [2] which is the cause why Religion sought ever access to the mind by similitudes, types, parables, vis-

concludes with a notice at considerable length of two *Desiderata* not mentioned here; the doctrine of Voluntary Motion, and the doctrine of Sense and the Sensible.

[1] De Aug. v. 1.

[2] Not, (he adds in the translation,) that the divine illumination resides in the Imagination, — its seat being rather in the very citadel of the mind and

ions, dreams. And again in all persuasions that are wrought by eloquence and other impression of like nature, which do paint and disguise the true appearance of things, the chief recommendation unto Reason is from the Imagination.[1] Nevertheless, because I find not any science that doth properly or fitly pertain to the Imagination, I see no cause to alter the former division. For as for Poesy, it is rather a pleasure or play of imagination, than a work or duty thereof. And if it be a work, we speak not now of such parts of learning as the Imagination produceth, but of such sciences as handle and consider of the Imagination; no more than we shall speak now of such knowledges as Reason produceth, (for that extendeth to all philosophy,) but of such knowledges as do handle and inquire of the faculty of Reason: so as Poesy had his true place.[2] As for the power of the Imagination in nature, and the manner of fortifying the same, we have mentioned it in the doctrine *De Anima*, whereunto most fitly it belongeth. And lastly, for Imaginative or Insinuative Reason, which is the subject of Rhetoric, we think it

understanding; — but that the divine grace uses the motions of the Imagination as an instrument of illumination, just as it uses the motions of the will as an instrument of virtue.

[1] This is better explained in the translation; where it is observed that the arts of speech by which men's minds are soothed, inflamed, or carried away, consist in exciting the Imagination till it gets the better of the Reason.

[2] This whole sentence is omitted in the translation; the reason for not altering the former division being stated simply thus: *Nam Phantasia scientias fere non parit; siquidem Poesis (quæ a principio Phantasiæ attributa est) pro lusu potius ingenii quam pro scientia habenda.* Poesy, which belongs properly to Imagination, is not to be considered as a part of *knowledge;* and the two other offices of the Imagination belong, one to the doctrine *de anima*, the other to Rhetoric. There is no occasion therefore to make a place for Imagination among the parts of knowledge which concern the faculties of the human mind.

best to refer it to the Arts of Reason. So therefore we content ourselves with the former division, that Human Philosophy which respecteth the faculties of the mind of man hath two parts, Rational and Moral.

The part of Human Philosophy which is rational, is of all knowledges, to the most wits, the least delightful; and seemeth but a net of subtility and spinosity. For as it was truly said, that knowledge is *pabulum animi*, [the food of the mind;] so in the nature of men's appetite to this food, most men are of the taste and stomach of the Israelites in the desert, that would fain have returned *ad ollas carnium*, [to the flesh-pots,] and were weary of manna; which, though it were celestial, yet seemed less nutritive and comfortable. So generally men taste well knowledges that are drenched in flesh and blood, Civil History, Morality, Policy, about the which men's affections, praises, fortunes, do turn and are conversant; but this same *lumen siccum*, [this dry light,] doth parch and offend most men's watery and soft natures. But to speak truly of things as they are in worth, Rational Knowledges are the keys of all other arts; for as Aristotle saith aptly and elegantly, *That the hand is the Instrument of Instruments, and the mind is the Form of Forms:* so these be truly said to be the Art of Arts: neither do they only direct, but likewise confirm and strengthen; even as the habit of shooting doth not only enable to shoot a nearer shoot, but also to draw a stronger bow.

The Arts Intellectual are four in number; divided according to the ends whereunto they are referred: for man's labour is to *invent*[1] that which is *sought* or *pro-*

[1] It may perhaps be worth while to observe that Bacon uses the word *invent* simply as equivalent to *invenir*, — to find out.

pounded; or to *judge* that which is *invented;* or to *retain* that which is *judged;* or to *deliver over* that which is *retained.* So as the arts must be four; Art of Inquiry or Invention: Art of Examination or Judgment; Art of Custody or Memory; and Art of Elocution or Tradition.

¶ [1] Invention is of two kinds, much differing; the one, of Arts and Sciences; and the other, of Speech and Arguments. The former of these I do report deficient; which seemeth to me to be such a deficience as if in the making of an inventory touching the estate of a defunct it should be set down *that there is no ready money.* For as money will fetch all other commodities, so this knowledge is that which should purchase all the rest. And like as the West-Indies had never been discovered if the use of the mariner's needle had not been first discovered, though the one be vast regions and the other a small motion; so it cannot be found strange if sciences be no further discovered, if the art itself of invention and discovery hath been passed over.

That this part of knowledge is wanting, to my judgment standeth plainly confessed: for first, Logic doth not pretend to invent Sciences or the Axioms of Sciences, but passeth it over with a *cuique in sua arte credendum,* [the knowledge that pertains to each art must be taken on trust from those that profess it]. And Celsus acknowledgeth it [2] gravely, speaking of the empirical and dogmatical sects of physicians, *That medicines and cures were first found out, and then after the reasons and causes were discoursed; and not the causes first found out, and by light from them the medicines and*

[1] De Aug. v. 2. [2] See note on Nov. Org. i. 73.

cures discovered. And Plato in his Theætetus[1] noteth well, *That particulars are infinite, and the higher generalities give no sufficient direction; and that the pith of all sciences, which maketh the arts-man differ from the inexpert, is in the middle propositions, which in every particular knowledge are taken from tradition and experience.* And therefore we see that they which discourse of the inventions and originals of things, refer them rather to chance than to art, and rather to beasts, birds, fishes, serpents, than to men.

> Dictamnum genetrix Cretæa carpit ab Ida,
> Puberibus caulem foliis et flore comantem
> Purpureo: non illa feris incognita capris
> Gramina, cum tergo volucres hæsere sagittæ.
>
> [A sprig of dittany his mother brought,
> Gathered by Cretan Ide; a stalk it is
> Of woolly leaf, crested with purple flower;
> Which well the wild-goat knows when in his side
> Sticks the winged shaft.]

So that it was no marvel (the manner of antiquity being to consecrate inventors) that the Ægyptians had so few human idols in their temples, but almost all brute:

> Omnigenumque Deum monstra, et latrator Anubis,
> Contra Neptunum et Venerem, contraque Minervam, &c.
>
> [All kinds and shapes of Gods, a monstrous host,
> The dog Anubis foremost, stood arrayed
> 'Gainst Neptune, Venus, Pallas, &c.]

And if you like better the tradition of the Grecians, and ascribe the first inventions to men, yet you will rather believe that Prometheus first struck the flints, and marvelled at the spark, than that when he first struck the flints he expected the spark; and there-

[1] Instead of "Plato *in his Theætetus* noteth" the translation has *Plato non semel innuit.* See note Vol. II. p. 363.

fore we see the West-Indian Prometheus had no intelligence with the European, because of the rareness with them of flint, that gave the first occasion.[1] So as it should seem that hitherto men are rather beholden to a wild goat for surgery, or to a nightingale for music, or to the Ibis for some part of physic,[2] or to the pot lid that flew open for artillery, or generally to chance or any thing else, than to Logic, for the invention of arts and sciences. Neither is the form of invention which Virgil describeth much other:

1 This curious passage, which is omitted in the *De Augmentis*, must refer to what Bacon had read in Ramusio of the way in which the natives of the West Indian islands kindled their fires, by rubbing pieces of wood together. Several passages in Bacon's writings show that he was a reader of Ramusio. See Ramusio, vol. iii. p. 103. a. for Oviedo's description of the method.

In reality the coincidence between the customary mode of kindling fire in the West Indies and the superstitious usages of Europe is remarkable. The latter seem to point back to a time when the use of steel and flint was unknown. The Noth-feuer of the Germans was kindled by rubbing pieces of wood together. This fire, originally connected with the worship of Fro, was lighted when cattle were threatened with murrain, and they were made to pass through it. Dr. Jamieson in his Scottish Dictionary mentions precisely the same practice at a comparatively recent period in Scotland in a case in which the murrain had done great mischief. The long continuance of this practice is a sort of illustration of Spinosa's bitter remark that Superstition is the child of Adversity, there being no man, he observes, who in prosperity does not think himself wise enough to take care of himself. See Spinosa, *Tract. Theol. Politicus*, chap. i.: and for the German superstition Wolf's *Die Deutsche Götterlehre*, pp. 27. 83.

The holy fire of Vesta, according to Festus (in voce *Ignis*), was rekindled when it had been allowed to go out, by friction of two pieces of wood. Plutarch's statement that the rays of the sun concentrated by reflexion were employed for the purpose seems improbable, and is apparently founded on a misconception or mistranslation of some earlier account of the matter. Pliny mentions, but without reference to Vesta, this mode of kindling fire, and states that the best combination is laurel wood with ivy. — *R. L. E.*

It is worth observing that though the passage in the text is omitted in the *De Augmentis*, the substance of it is retained in the *Cogitata et Visa*. *Nam ideo in ignis invento Prometheum Novæ Indiæ ab Europæo dissensisse, quod apud eos silicis non est copia.* — *J. S.*

2 *pro lavationibus intestinorum.* — De Aug.

Ut varias usus meditando extunderet artes
Paulatim:

[that practice with meditation might by degrees hammer out the arts]. For if you observe the words well, it is no other method than that which brute beasts are capable of, and do put in ure; which is *a perpetual intending or practising some one thing, urged and imposed by an absolute necessity of conservation of being:* for so Cicero saith very truly, *Usus uni rei deditus et naturam et artem sæpe vincit:* [practice applied constantly to one thing will often do more than either nature or art can]. And therefore if it be said of men,

Labor omnia vincit
Improbus, et duris urgens in rebus egestas,
[Stern labour masters all,
And want in poverty importunate,]

it is likewise said of beasts, *Quis psittaco docuit suum* χαῖρε? [who taught the parrot to say how d'ye do?] Who taught the raven in a drowth to throw pebbles into an hollow tree where she spied water, that the water might rise so as she might come to it? Who taught the bee to sail through such a vast sea of air, and to find the way from a field in flower a great way off to her hive? Who taught the ant to bite every grain of corn that she burieth in her hill, lest it should take root and grow? Add then the word *extundere*, which importeth the extreme difficulty, and the word *paulatim*, which importeth the extreme slowness, and we are where we were, even amongst the Ægyptians' gods; there being little left to the faculty of Reason, and nothing to the duty of Art, for matter of invention.

Secondly, the induction which the logicians speak of,

and which seemeth familiar with Plato,[1] whereby the Principles of sciences may be pretended to be invented, and so the middle propositions by derivation from the principles, — their form of induction, I say, is utterly vicious and incompetent: wherein their error is the fouler, because it is the duty of Art to perfect and exalt Nature; but they contrariwise have wronged, abused, and traduced nature. For he that shall attentively observe how the mind doth gather this excellent dew of knowledge, like unto that which the poet speaketh of, *Aërei mellis cœlestia dona*, [the gift of heaven, aërial honey,] distilling and contriving it out of particulars natural and artificial, as the flowers of the field and garden, shall find that the mind of herself by nature doth manage and act an induction much better than they describe it. For to conclude *upon an enumeration of particulars without instance contradictory* is no conclusion, but a conjecture; for who can assure (in many subjects) upon those particulars which appear of a side, that there are not other on the contrary side which appear not? As if Samuel should have rested upon those sons of Issay[2] which were brought before him, and failed of David, which was in the field. And this form (to say truth) is so gross, as it had not been possible for wits so subtile as have managed these things to have offered it to the world, but that they hasted to their *theories* and *dogmaticals*, and were imperious and scornful toward particulars; which their manner was to use but as *lictores*

[1] This reference to Plato is omitted in the translation, as well as the allusion to the derivation of the middle propositions. The induction in question is merely described as "the form of induction which Logic proposes, whereby to discover and prove the principles of sciences."

[2] So in all three editions. The *De Augmentis* has *Isai*.

and *viatores*, for sergeants and whifflers, *ad summovendam turbam*, to make way and make room for their opinions, rather than in their true use and service. Certainly it is a thing may touch a man with a religious wonder, to see how the footsteps of seducement are the very same in divine and human truth: for as in divine truth man cannot endure to become as a child; so in human, they reputed the attending the Inductions (whereof we speak) as if it were a second infancy or childhood.

Thirdly, allow some Principles or Axioms were rightly induced, yet nevertheless certain it is that Middle Propositions cannot be deduced from them in subject of nature [1] by Syllogism, that is, *by touch and reduction of them to principles in a middle term.* It is true that in sciences popular, as moralities, laws, and the like, yea and divinity (because it pleaseth God to apply himself to the capacity of the simplest), that form may have use; and in natural philosophy likewise, by way of argument or satisfactory reason, *quæ assensum parit, operis effœta est*, [which procures assent but can do no work:] but the subtilty of nature and operations will not be enchained in those bonds: for Arguments consist of Propositions, and Propositions of Words; and Words are but the current tokens or marks of Popular Notions of things; which notions, if they be grossly and variably collected out of particulars, it is not the laborious examination either of consequences of arguments or of the truth of propositions, that can ever correct that error; being (as the physicians speak) in the first digestion: and therefore it was not without cause, that so many excellent phi-

[1] *in rebus naturalibus, quæ participant ex materiâ.* — De Aug.

losophers became Sceptics and Academics, and denied any certainty of knowledge or comprehension, and held opinion that the knowledge of man extended only to appearances and probabilities. It is true that in Socrates it was supposed to be but a form of irony, *Scientiam dissimulando simulavit*, [an affectation of knowledge under pretence of ignorance:] for he used to disable his knowledge, to the end to enhance his knowledge;[1] like the humour of Tiberius in his beginnings, that would reign, but would not acknowledge so much;[2] and in the later Academy, which Cicero embraced, this opinion also of *acatalepsia* (I doubt) was not held sincerely: for that all those which excelled in copie of speech seem to have chosen that sect, as that which was fittest to give glory to their eloquence and variable discourses; being rather like progresses of pleasure than journeys to an end. But assuredly many scattered in both Academies did hold it in subtilty and integrity. But here was their chief error; they charged the deceit upon the Senses; which in my judgment (notwithstanding all their cavillations) are very sufficient to certify and report truth, though not always immediately, yet by comparison,[3] by help of instrument, and by producing and urging such things as are too subtile for the sense to some effect comprehensible by the sense, and other like assistance. But they ought to have charged the deceit upon *the weakness*[4] *of the intellectual powers, and upon the man-*

[1] i. e. pretended not to know what it was plain he knew, that he might be thought to know likewise what he knew not — *renunciando scilicet iis quæ manifesto sciebat ut eo modo ea etiam quæ nesciebat scire putaretur.*

[2] This allusion to Tiberius is omitted in the translation.

[3] There is nothing about comparison in the translation.

[4] In the translation he adds *contumacy* — *tum erroribus tum contumacia* (*quæ rebus ipsis morigera esse recusat*) — and also *pravis demonstrationibus;*

ner of collecting and concluding upon the reports of the senses. This I speak not to disable the mind of man, but to stir it up to seek help: for no man, be he never so cunning or practised, can make a straight line or perfect circle by steadiness of hand, which may be easily done by help of a ruler or compass.[1]

Experientia literata, et interpretatio Naturæ.

This part of invention, concerning the invention of sciences, I purpose (if God give me leave) hereafter to propound; having digested it into two parts; whereof the one I term *Experientia literata*, and the other *Interpretatio Naturæ:*[2] the former being but a degree and rudiment of the latter. But I will not dwell too long, nor speak too great upon a promise.

¶[3] The invention of speech or argument is not properly an invention: for to invent is to discover that we know not, and not to recover or resummon that which we already know; and the use of this in-

an insertion which (though the observation is implied perhaps in the English) I have thought worth noticing; because these *pravæ demonstrationes* were Idols of the *Theatre*, of which in the *Advancement of Learning* there is no mention.

[1] This it is then (he adds, writing eighteen years later) which I have in hand, and am labouring with mighty effort to accomplish — namely to make the mind of man by help of art a match for the nature of things, — to discover an art of Indication and Direction whereby all other arts with their axioms and works may be detected and brought to light.

[2] The one being the method of inquiry which proceeds from one experiment to another by a kind of natural sagacity; the other that which proceeds from experiments to axioms, and thence by the light of the axioms to new experiments. *Aut enim defertur indicium ab experimentis ad experimenta, aut ab experimentis ad axiomata quæ et ipsa nova experimenta designent.* Of this *Experientia literata* there follows in the *De Augmentis* an exposition at considerable length; in which the several methods of experimenting are described, with illustrations. And this concludes the chapter, the exposition of the other part, the Interpretatio Naturæ, being reserved for the *Novum Organum*.

[3] De Aug. v. 3.

vention is no other but *out of the knowledge whereof our mind is already possessed, to draw forth or call before us that which may be pertinent to the purpose which we take into our consideration.* So as, to speak truly, it is no *Invention*, but a *Remembrance* or *Suggestion*, with an application; which is the cause why the schools do place it after judgment, as subsequent and not precedent. Nevertheless, because we do account it a Chase as well of deer in an inclosed park as in a forest at large, and that it hath already obtained the name, let it be called invention: so as it be perceived and discerned, that the scope and end of this invention is readiness and present use of our knowledge, and not addition or amplification thereof.

To procure this ready use of knowledge there are two courses, Preparation and Suggestion.[1] The former of these seemeth scarcely a part of Knowledge, consisting rather of diligence than of any artificial erudition. And herein Aristotle wittily, but hurtfully, doth deride the sophists near his time, saying, *they did as if one that professed the art of shoe-making should not teach how to make up a shoe, but only exhibit in a readiness a number of shoes of all fashions and sizes.* But yet a man might reply, that if a shoe-maker should have no shoes in his shop, but only work as he is bespoken, he should be weakly customed. But our Saviour, speaking of Divine Knowledge, saith, *that the kingdom of heaven is like a good householder, that bringeth forth both new and old store;* and we see the ancient writers of rhetoric do give it in precept, that pleaders

[1] In the translation he calls these respectively *Promptuaria* and *Topica:* the one being a collection of arguments such as you are likely to want, laid up ready for use; the other a system of directions to help you in looking for the thing you want to find.

should have the Places whereof they have most continual use ready handled in all the variety that may be; as that, to speak for the literal interpretation of the law against equity, and contrary; and to speak for presumptions and inferences against testimony, and contrary. And Cicero himself, being broken unto it by great experience, delivereth it plainly, that whatsoever a man shall have occasion to speak of, (if he will take the pains) he may have it in effect premeditate, and handled *in thesi;* so that when he cometh to a particular, he shall have nothing to do but to put to names and times and places, and such other circumstances of individuals. We see likewise the exact diligence of Demosthenes; who, in regard of the great force that the entrance and access into causes hath to make a good impression, had ready framed a number of prefaces for orations and speeches. All which authorities and precedents may overweigh Aristotle's opinion, that would have us change a rich wardrobe for a pair of shears.

But the nature of the collection of this provision or preparatory store, though it be common both to logic and rhetoric, yet having made an entry of it here, where it came first to be spoken of, I think fit to refer over the further handling of it to rhetoric.

The other part of Invention, which I term Suggestion, doth assign and direct us to certain *marks* or *places*, which may excite our mind to return and produce such knowledge as it hath formerly collected, to the end we may make use thereof. Neither is this use (truly taken) only to furnish argument to dispute probably with others, but likewise to minister unto our judgment to conclude aright within ourselves. Nei-

ther may these Places serve only to apprompt our invention, but also to direct our inquiry. For a faculty of wise interrogating is half a knowledge. For as Plato saith, *Whosoever seeketh, knoweth that which he seeketh for in a general notion; else how shall he know it when he hath found it?* And therefore the larger[1] your Anticipation is, the more direct and compendious is your search. But the same Places which will help us what to produce of that which we know already, will also help us, if a man of experience were before us, what questions to ask; or if we have books and authors to instruct us, what points to search and revolve: so as I cannot report[2] that this part of invention, which is that which the schools call Topics, is deficient.

Nevertheless Topics are of two sorts, *general* and *special*. The general we have spoken to; but the particular hath been touched by some, but rejected generally as inartificial and variable. But leaving the

[1] *amplior et* certior. — De Aug.

[2] Thus the sentence stands both in the original and in the editions of 1629 and 1633; though I do not understand the connexion between it and the sentence preceding. Possibly an intermediate sentence has dropped out, or some alteration has been inadvertently made which disturbs the construction. In the translation the arrangement of the whole passage is changed, and all is made clear. He begins by dividing Topics into two kinds, General and Particular. The General (he says) has been sufficiently handled in Logic, and therefore he leaves it with a passing remark (*illud tamen obiter monendum videtur*) to the effect of that in the text; "neither is this use," &c. down to "search and revolve." But Particular Topics, he proceeds, are more to the purpose and of great value, and have not received the attention they deserve. He then goes on to explain at length what he means; repeating the observations in the next paragraph with some amplification and greater clearness, and then giving a specimen of the thing, in a series of Particular Topics or articles of inquiry concerning Heavy and Light; with which the chapter concludes. With regard to the importance of these *Topicæ* as a part of Bacon's method of inquiry — an importance so considerable that he meant to devote a special work to the subject, — see my prefaces to the *Parasceve* (Vol. II. p. 36.) and to the *Topica Inquisitionis de Luce et Lumine* (Vol. IV. p. 129.).

humour which hath reigned too much in the schools, (which is to be vainly subtile in a few things which are within their command, and to reject the rest,) I do receive particular Topics, that is places or directions of invention and inquiry in every particular knowledge, as things of great use; being mixtures of Logic with the matter of sciences; for in these it holdeth, *Ars inveniendi adolescit cum inventis*, [every act of discovery advances the art of discovery;] for as in going of a way we do not only gain that part of the way which is passed, but we gain the better sight of that part of the way which remaineth; so every degree of proceeding in a science giveth a light to that which followeth; which light if we strengthen, by drawing it forth into questions or places of inquiry, we do greatly advance our pursuit.

¶ [1] Now we pass unto the arts of Judgment, which handle the natures of Proofs and Demonstrations; which as to Induction hath a coincidence with Invention; *for in all inductions, whether in good or vicious form, the same action of the mind which inventeth, judgeth; all one as in the sense;* but otherwise it is in proof by syllogism; for the proof being not immediate but by mean, *the invention of the mean* is one thing, and the *judgment of the consequence* is another; the one exciting only, the other examining. Therefore for the real and exact form of judgment we refer ourselves to that which we have spoken of *Interpretation of Nature.*

For the other judgment by Syllogism, as it is a thing most agreeable to the mind of man, so it hath been vehemently and excellently laboured. For the nature of man doth extremely covet to have somewhat in his

[1] De Aug. v. 4.

understanding fixed and immoveable, and as a rest and support of the mind. And therefore as Aristotle endeavoureth to prove that in all motion there is some point quiescent; and as he elegantly expoundeth the ancient fable of Atlas (that stood fixed and bare up the heaven from falling) to be meant of the poles or axle-tree of heaven, whereupon the conversion is accomplished; so assuredly men have a desire to have an Atlas or axle-tree within to keep them from fluctuation, which is like to a perpetual peril of falling; therefore men did hasten to set down some Principles about which the variety of their disputations might turn.

So then this art of Judgment is but *the reduction of propositions to principles in a middle term:* the Principles to be agreed by all and exempted from argument; the Middle Term to be elected at the liberty of every man's invention; the Reduction to be of two kinds, direct and inverted; the one when the proposition is reduced to the principle, which they term a *Probation ostensive;* the other when the contradictory of the proposition is reduced to the contradictory of the principle, which is that which they call *per incommodum*, or *pressing an absurdity;* the number of middle terms to be[1] as the proposition standeth degrees more or less removed from the principle.

But this art hath two several methods of doctrine; the one by way of direction, the other by way of caution: the former frameth and setteth down a true form of consequence, by the variations and deflexions from which errors and inconsequences may be exactly judged; toward the composition and structure of which

[1] *i. e.* to be more or fewer.

form, it is incident to handle the parts thereof, which are propositions, and the parts of propositions, which are simple words;[1] and this is that part of logic which is comprehended in the Analytics.

The second method of doctrine was introduced for expedite use and assurance sake; discovering the more subtile forms of sophisms and illaqueations with their redargutions, which is that which is termed *Elenches*. For although in the more gross sorts of fallacies it happeneth (as Seneca maketh the comparison well) as in juggling feats, which though we know not how they are done, yet we know well it is not as it seemeth to be; yet the more subtile sort of them doth not only put a man besides his answer, but doth many times abuse his judgment.

This part concerning *Elenches*[2] is excellently handled by Aristotle in precept, but more excellently by Plato in example, not only in the persons of the Sophists, but even in Socrates himself; who professing to affirm nothing, but to infirm that which was affirmed by another, hath exactly expressed all the forms of objection, fallace,[3] and redargution. And although we

[1] This clause is omitted in the translation; and a new observation is introduced in its place; viz. that though this direction contains in itself a kind of Elenche or confutation (for the straight indicates the crooked), yet it is safest to employ Elenches (that is, Elenches properly so called) as monitors, for the better detection of fallacies by which the judgment would otherwise be ensnared.

[2] In the translation the Doctrine of Elenches is divided into three kinds — *Elenchos Sophismatum*, *Elenchos Hermeniæ*, *Elenchos imaginum sive Idolorum: i. e.* Cautions against Sophisms, against ambiguity of words, against Idols or false appearances; and it is to the first only that the observation which follows is applied.

[3] So in all the editions; and not (I think) a misprint for *fallacie*, but another word, formed not from *fallacia* but from *fallax*. Compare "Colours of Good and Evil," § 1. "The *fallax* of this colour," &c.

have said that the use of this doctrine is for redargution, yet it is manifest the degenerate and corrupt use is for caption and contradiction;[1] which passeth for a great faculty, and no doubt is of very great advantage: though the difference be good which was made between orators and sophisters, that the one is as the greyhound, which hath his advantage in the race, and the other as the hare, which hath her advantage in the turn, so as it is the advantage of the weaker creature.

But yet further, this doctrine of *Elenches* hath a more ample latitude and extent than is perceived; namely, unto divers parts of knowledge; whereof some are laboured and other omitted. For first, I conceive (though it may seem at first somewhat strange) that that part which is variably referred sometimes to Logic sometimes to Metaphysic, touching the *common adjuncts of essences*, is but an elenche;[2] for the great sophism of all sophisms being equivocation or ambiguity of words and phrase, specially of such words as are most general and intervene in every inquiry, it seemeth to me that the true and fruitful use (leaving vain subtilties and speculations) of the inquiry of majority, minority, priority, posteriority, identity, diversity, possibility, act, totality, parts, existence, privation, and the like, are but wise cautions against ambiguities of speech. So again the distribution of things into certain tribes, which we call categories or predicaments, are but cautions against the confusion of definitions and divisions.

Secondly, there is a seducement that worketh by the

[1] *i. e.* the true use is to answer sophistical arguments, the corrupt use to invent sophistical objections.

[2] This is the part which in the translation he calls *Elenchos Hermeniæ*; and explains much more clearly and fully.

strength of the impression and not by the subtilty of the illaqueation; not so much perplexing the reason as overruling it by power of the imagination. But this part I think more proper to handle when I shall speak of Rhetoric.[1]

But lastly, there is yet a much more important and profound kind of fallacies in the mind of man, which I find not observed or enquired at all, and think good to place here, as that which of all others appertaineth most to rectify judgment: the force whereof is such, as it doth not dazzle or snare the understanding in some particulars, but doth more generally and inwardly infect and corrupt the state thereof.[2] For the mind of man is far from the nature of a clear and equal glass, wherein the beams of things should reflect according to their true incidence; nay, it is rather like an enchanted glass, full of superstition and imposture, if it be not delivered and reduced. For this purpose, let us consider the false appearances that are imposed upon us by the general nature of the mind,[3] beholding them in an example or two; as first, in that instance which is the root of all superstition, namely, *That to the nature of the mind of all men it is consonant for the affirmative or active to affect more than the negative or privative:* so that a few times hitting or presence, countervails oft-

[1] This paragraph is omitted altogether in the translation.

[2] Here we have the doctrine of Idols, in its earliest form; the names not being yet given, and the Idols of the Theatre not yet introduced into the company. For the history of this doctrine see preface to the *Novum Organum*, note C. In the *De Augmentis* the names are given, and the fourth kind mentioned, though only to be set aside as not belonging to the present argument. The exposition of the three first is also considerably fuller than here, though not nearly so full as in the *Novum Organum*, to which we are referred.

[3] These are the Idols of the Tribe.

times failing or absence;[1] as was well answered by Diagoras to him that shewed him in Neptune's temple the great number of pictures of such as had scaped shipwrack and had paid their vows to Neptune, saying, *Advise now, you that think it folly to invocate Neptune in tempest: Yea but* (saith Diagoras) *where are they painted that are drowned?* Let us behold it in another instance, namely, *That the spirit of man, being of an equal and uniform substance, doth usually suppose and feign in nature a greater equality and uniformity than is in truth.* Hence it cometh that the mathematicians cannot satisfy themselves, except they reduce the motions of the celestial bodies to perfect circles, rejecting spiral lines, and labouring to be discharged of eccentrics. Hence it cometh, that whereas there are many things in nature as it were *monodica*,[2] *sui juris*, [singular, and like nothing but themselves;] yet the cogitations of man do feign unto them relatives, parallels, and conjugates, whereas no such thing is; as they have feigned an element of Fire, to keep square with Earth, Water, and Air, and the like: nay, it is not credible, till it be opened, what a number of fictions and fancies the similitude of human actions and arts,[3] together with the making of man *communis mensura*, have brought into Natural Philosophy; not much better than the heresy of

[1] which (he adds in the translation) is the root of all superstition and vain credulity, in matters of astrology, dreams, omens, &c.

[2] So the word is spelt throughout Bacon's writings, as observed by Mr. Ellis, Vol. I. p. 253. The introduction here of *sui juris* as the Latin equivalent seems to show that the error arose from a mistake as to the etymology of the Greek word.

[3] *i. e.* the supposed resemblance between the arts and actions of Man and the operations of Nature: *naturalium operationum ad similitudinem actionum humanarum reductio: hoc ipsum inquam, quod putetur talia Naturam facere qualia Homo facit.*

the Anthropomorphites, bred in the cells of gross and solitary monks, and the opinion of Epicurus, answerable to the same in heathenism, who supposed the gods to be of human shape. And therefore Velleius the Epicurian [1] needed not to have asked, why God should have adorned the heavens with stars, as if he had been an Ædilis, one that should have set forth some magnificent shews or plays. For if that great work-master had been of an human disposition, he would have cast the stars into some pleasant and beautiful works and orders, like the frets in the roofs of houses; whereas one can scarce find a posture in square or triangle or straight line amongst such an infinite number; so differing an harmony there is between the spirit of Man and the spirit of Nature.

Let us consider again the false appearances imposed upon us by every man's own individual nature and custom,[2] in that feigned supposition that Plato maketh of the cave: for certainly if a child were continued in a grot or cave under the earth until maturity of age, and came suddenly abroad, he would have strange and absurd imaginations; so in like manner, although our persons live in the view of heaven, yet our spirits are included in the caves of our own complexions and customs; which minister unto us infinite errors and vain opinions, if they be not recalled to examination.[3] But

[1] So in the original: the word being pronounced in Bacon's time *Epicurian*. See *Walker on Shakespeare's versification*, p. 211.

[2] These are the Idols of the Cave.

[3] *i. e.* if they be not corrected by the continual contemplation of nature at large: *si e specu sua raro tantum et ad breve aliquod tempus prodeant, et non in contemplatione naturæ perpetuo, tanquam sub dio, morentur.*

It may be worth observing that Bacon guards himself against being supposed to represent the full intention of Plato's parable, by adding in a parenthesis *missa illa exquisita parabolæ subtilitate.*

hereof we have given many examples in one of the errors, or peccant humours, which we ran briefly over in our first book.

And lastly, let us consider the false appearances that are imposed upon us by words,[1] which are framed and applied according to the conceit and capacities of the vulgar sort: and although we think we govern our words, and prescribe it well, *Loquendum ut vulgus, sentiendum ut sapientes*, [a man should speak like the vulgar and think like the wise;] yet certain it is that words, as a Tartar's bow, do shoot back upon the understanding of the wisest, and mightily entangle and pervert the judgment; so as it is almost necessary in all controversies and disputations to imitate the wisdom of the Mathematicians, in setting down in the very beginning the definitions of our words and terms, that others may know how we accept and understand them, and whether they concur with us or no.[2] For it cometh to pass for want of this, that we are sure to end there where we ought to have begun, which is in questions and differences about words. To conclude therefore, it must be confessed that it is not possible to divorce ourselves from these fallacies and false appearances, because they are inseparable from our nature and condition of life; so yet nevertheless the caution of them (for all elenches, as was said, are but cautions) doth extremely im-

Elenchi magni, sive de Idolis animi humani, nativis et adventitiis.

[1] These are the Idols of the Market-place.

[2] It might seem from this that Bacon thought the premising of definitions would be a sufficient remedy for the evil. But in the translation he changes the sentence and expressly warns us that it is not: for the definitions themselves, he says, are made of *words;* and though we think to remove ambiguities by the use of technical terms, &c., yet all is not enough, and we must look for a remedy which goes deeper.

port the true conduct of human judgment. The particular elenches or cautions against these three false appearances I find altogether deficient.

There remaineth one part of judgment of great excellency, which to mine understanding is so slightly touched, as I may report that also deficient; which is the application of the differing kinds of proofs to the differing kinds of subjects; for there being but four kinds of demonstrations, that is, by the immediate consent of the mind or sense; by induction; by sophism: and by congruity, which is that which Aristotle calleth *demonstration in orb or circle*, and not *a notioribus*;[1] every of these hath certain subjects in the matter of sciences, in which respectively they have chiefest use; and certain other, from which respectively they ought to be excluded: and the rigour and curiosity in requiring the more severe proofs in some things, and chiefly the facility in contenting ourselves with the more remiss proofs in others, hath been amongst the greatest causes of detriment and hindrance to knowledge. The distributions and assignations of demonstrations, according to the analogy of sciences, I note as deficient.

De Analogia Demonstrationum.

¶[2] The custody or retaining of knowledge is either in Writing or Memory; whereof Writing hath two parts, the nature of the *character*, and the order of the *entry*. For the art of *characters*, or other visible notes of words or things, it hath nearest conjugation with grammar, and therefore I refer it to the due place.[3] For

[1] *non a notioribus scilicet, sed tanquam de plano.* — De Aug.

[2] De Aug. v. 5.

[3] All this is omitted in the translation. The art of retaining knowledge is divided into two doctrines: viz. concerning the helps (*adminicula*) of memory, and concerning Memory itself. The only help of memory which

the *disposition* and *collocation* of that knowledge which we preserve in writing, it consisteth in a good digest of common-places; wherein I am not ignorant of the prejudice imputed to the use of common-place books, as causing a retardation of reading, and some sloth or relaxation of memory. But because it is but a counterfeit thing in knowledges to be forward and pregnant, except a man be deep and full, I hold the entry of common-places to be a matter of great use and essence in studying; as that which assureth copie of invention, and contracteth judgment to a strength. But this is true, that of the *methods* of common-places that I have seen, there is none of any sufficient worth; all of them carrying merely the face of a *school*, and not of a *world;* and referring to vulgar matters and pedantical divisions without all life or respect to action.

For the other principal part of the custody of knowledge, which is Memory, I find that faculty in my judgment weakly enquired of. An art there is extant of it; but it seemeth to me that there are better precepts than that art, and better practices of that art than those received. It is certain the art (as it is) may be raised to points of ostentation prodigious: but in use (as it is now managed) it is barren; not burdensome nor dangerous to natural memory, as is imagined, but barren; that is, not dexterous to be applied to the serious use of business and occasions. And therefore I make no more estimation of repeating a great number of names or words upon once hearing, or the pouring forth of a

is mentioned is writing; concerning which, after remarking that without this help the memory cannot be trusted to deal with matters of length and requiring exactness, especially such as the interpretation of nature, he insists upon the value of a good digest of common-places even in the old and popular sciences, and so proceeds as in the text.

number of verses or rhymes *ex tempore*, or the making of a satirical simile of every thing, or the turning of every thing to a jest, or the falsifying or contradicting of every thing by cavil, or the like, (whereof in the faculties of the mind there is great copie, and such as by device and practice may be exalted to an extreme degree of wonder,) than I do of the tricks of tumblers, funambuloes, baladines; the one being the same in the mind that the other is in the body; matters of strangeness without worthiness.

This art of Memory is but built upon two intentions; the one Prenotion, the other Emblem. Prenotion dischargeth the indefinite seeking of that we would remember, and directeth us to seek in a narrow compass; that is, somewhat that hath congruity with our *place of memory*. Emblem reduceth conceits intellectual to images sensible, which strike the memory more: out of which axioms may be drawn much better practique than that in use; and besides which axioms, there are divers moe touching help of memory, not inferior to them.[1] But I did in the beginning distinguish, not to report those things deficient, which are but only ill managed.

¶[2] There remaineth the fourth kind of Rational Knowledge, which is transitive, concerning the expressing or transferring our knowledge to others; which I will term by the general name of Tradition or Delivery. Tradition hath three parts; the first concerning the *organ* of tradition; the second concerning the

[1] The nature and use of these prænotions and emblems is explained and illustrated in the translation by several examples; but the substance of the observation is not altered.

[2] De Aug. vi. 1.

method of tradition; and the third concerning the *illustration* of tradition.[1]

For the organ of tradition, it is either Speech or Writing: for Aristotle saith well, *Words are the images of cogitations, and letters are the images of words;* but yet it is not of necessity that cogitations be expressed by the medium of words. For *whatsoever is capable of sufficient differences,*[2] *and those perceptible by the sense, is in nature competent to express*[3] *cogitations.* And therefore we see in the commerce of barbarous[4] people that understand not one another's language, and in the practice of divers that are dumb and deaf, that men's minds are expressed in gestures, though not exactly, yet to serve the turn. And we understand further[5] that it is the use of China and the kingdoms of the high Levant to write in Characters Real, which express neither letters nor words in gross, but Things or Notions; insomuch as countries and provinces, which understand not one another's language, can nevertheless read one another's writings, because the characters are accepted more generally than the languages do extend; and therefore they have a vast multitude of characters; as many, I suppose, as radical words.[6]

These Notes of Cogitations are of two sorts; the

[1] In the *De Augmentis*, *tradition* (in these three last cases) is translated *sermo:* which appears to be used in the general sense of *communication.*

[2] *i. e.* sufficient to explain the variety of notions.

[3] *i. e.* to convey the cogitations of one man to another (*fiere posse vehiculum cogitationum de homine in hominem*), and so to be an organ of (*traditive* (*traditivus.*)

[4] *Barbarous* is omitted in the translation: the thing being equally seen in civilised people who know no common language.

[5] *notissimum fieri jam cœpit.*

[6] This observation is transferred in the *De Augmentis* to the next paragraph, and applied generally to all systems of writing in Characters Real.

one when the note hath some similitude or congruity with the notion; the other *ad placitum*, having force only by contract or acceptation. Of the former sort are Hieroglyphics and Gestures. For as to Hieroglyphics, (things of ancient use, and embraced chiefly by the Ægyptians, one of the most ancient nations,) they are but as continued impresses and emblems. And as for Gestures, they are as transitory Hieroglyphics, and are to Hieroglyphics as words spoken are to words written, in that they abide not; but they have evermore, as well as the other, an affinity with the things signified: as Periander, being consulted with how to preserve a tyranny newly usurped, bid the messenger attend and report what he saw him do; and went into his garden and topped all the highest flowers; signifying, that it consisted in the cutting off and keeping low of the nobility and *grandes*.[1] *Ad placitum* are the Characters Real before mentioned, and Words: although some have been willing by curious inquiry, or rather by apt feigning, to have derived imposition of names from reason and intendment; a speculation elegant, and, by reason it searcheth into antiquity, reverent; but sparingly mixed with truth, and of small fruit.[2]

De Notis Rerum. This portion of knowledge, touching the Notes of Things and cogitations in general, I find not enquired, but deficient. And although it may seem of no great use, considering that words and

[1] So in the original; and I believe always in Bacon; the Spanish word being still treated as a foreigner, and the accent falling no doubt upon the first syllable.

[2] The substance of this remark is introduced in the translation in another place. Here it is merely said that Characters Real have nothing emblematic in them; but are merely *surds*, framed *ad placitum* and silently agreed upon by custom.

writings by letters do far excel all the other ways; yet because this part concerneth as it were the mint of knowledge, (for words are the tokens current and accepted for conceits, as moneys are for values, and that it is fit men be not ignorant that moneys may be of another kind than gold and silver,) I thought good to propound it to better enquiry.

Concerning Speech and Words, the consideration of them hath produced the science of Grammar: for man still striveth to reintegrate himself in those benedictions, from which by his fault he hath been deprived; and as he hath striven against the first general curse by the invention of all other arts, so hath he sought to come forth of the second general curse (which was the confusion of tongues) by the art of Grammar: whereof the use in a mother[1] tongue is small: in a foreign tongue more; but most in such foreign tongues as have ceased to be vulgar tongues, and are turned only to learned tongues. The duty of it is of two natures; the one popular,[2] which is for the speedy and perfect attaining languages, as well for intercourse of speech as for understanding of authors; the other philosophical, examining the power and nature of words as they are the footsteps and prints of reason: which kind of analogy between words and reason is handled *sparsim*, brokenly, though not entirely;[3] and therefore I cannot

[1] *in another tongue* ed. 1605: *in mother tongue* edd. 1629 and 1633. The translation has *in linguis quibusque vernaculis.*

[2] In the translation he substitutes *literary* for *popular.*

[3] Here are introduced in the translation some interesting remarks on the subject of the analogy between words and reason; in which it is worth observing among other things, that Bacon appears to have changed his opinion as to the nature of Cæsar's book *De Analogia*, since he wrote the first book of the *Advancement.* See above p. 159. There he describes it as "a grammatical philosophy, wherein he did labour to make this same vox

report it deficient, though I think it very worthy to be reduced into a science by itself.

Unto Grammar also belongeth, as an appendix, the consideration of the Accidents of Words; which are measure, sound, and elevation or accent, and the sweetness and harshness of them; whence hath issued some curious observations in Rhetoric, but chiefly Poesy, as we consider it in respect of the verse and not of the argument: wherein though men in learned tongues do tie themselves to the ancient measures, yet in modern languages it seemeth to me as free to make new measures of verses as of dances; for a dance is a measured pace, as a verse is a measured speech.[1] In these things the sense is better judge than the art;

Cœnæ fercula nostræ
Mallem convivis quam placuisse cocis:

[the dinner is to please the guests that eat it, not the cook that dresses it.] And of the servile expressing

ad placitum to become *vox ad licitum*, and to reduce custom of speech to congruity of speech, and took as it were the picture of words from the life of reason." Here he says he has doubted whether that book of Cæsar's treated of such a grammatical philosophy as he is speaking of; but that he rather suspects it contained nothing very high or subtile, but only precepts for the formation of a chaste and perfect style, free from vulgarity and affectation.

[1] This observation is omitted in the translation, and instead we have a censure of the attempts (made not long before Bacon's time) to force the modern languages into the ancient measures; measures (he says) which are incompatible with the frame of the languages themselves, and not less offensive to the ear. But this censure may perhaps be considered as a development of the remark which concludes this paragraph, and which is also omitted. Certainly there is no English metre which represents the metrical effect of the Virgilian hexameter worse than the English hexameter as people write it now: and if any one would try to write it so as to represent the metrical effect truly, by attending to the distinction between accent and quantity, and distributing them according to the same laws, he would find the truth of Bacon's remark that *ipsæ linguæ fabrica respuit*; the English language does not supply the materials.

antiquity in an unlike and an unfit subject, it is well said, *Quod tempore antiquum videtur, id incongruitate est maxime novum;* [there is nothing more new than an old thing that has ceased to fit].

For Ciphers, they are commonly in letters or alphabets, but may be in words. The kinds of Ciphers (besides the simple ciphers with changes and intermixtures of nulls and non-significants) are many, according to the nature or rule of the infolding; Wheel-ciphers, Key-ciphers, Doubles, &c. But the virtues of them, whereby they are to be preferred, are three; that they be not laborious to write and read; that they be impossible to decipher; and, in some cases, that they be without suspicion. The highest degree whereof is to write *omnia per omnia;* which is undoubtedly possible, with a proportion quintuple at most of the writing infolding to the writing infolded, and no other restraint whatsoever.[1] This art of Ciphering, hath for relative an art of Disciphering; by supposition[2] unprofitable; but, as things are, of great use. For suppose that ciphers were well managed, there be multitudes of them which exclude the discipherer. But in regard of the rawness and unskilfulness of the hands through which they pass, the greatest matters are many times carried in the weakest ciphers.

In the enumeration of these private and retired arts, it may be thought I seek to make a great muster-roll

[1] In the *De Augmentis* he gives a specimen of a cipher by which this feat of writing *omnia per omnia* (that is of conveying any words you please under cover of any other words you please, provided only that they contain not less than five times as many letters) may be accomplished; a cipher invented, he says, by himself when he was at Paris.

[2] *i. e.* if things were as they might be: *attamen præcautione solerti fieri possit inutilis.*

of sciences; naming them for shew and ostentation, and to little other purpose. But let those which are skilful in them judge whether I bring them in only for appearance, or whether in that which I speak of them (though in few marks) there be not some seed of proficience. And this must be remembered, that as there be many of great account in their countries and provinces, which when they come up to the Seat of the Estate are but of mean rank and scarcely regarded; so these arts being here placed with the principal and supreme sciences, seem petty things; yet to such as have chosen them to spend their studies in them,[1] they seem great matters.

¶ [2] For the Method of Tradition, I see it hath moved a controversy in our time.[3] But as in civil business, if there be a meeting and men fall at words there is commonly an end of the matter for that time and no proceeding at all; so in learning, where there is much controversy there is many times little inquiry. For this part of knowledge of Method seemeth to me so weakly enquired as I shall report it deficient.

Method hath been placed, and that not amiss, in Logic, as a part of Judgment: for as the doctrine of Syllogisms comprehendeth the rules of judgment upon that which is invented, so the doctrine of Method con-

[1] *qui operam illis præcipue impenderint.* — De Aug. The original edition and that of 1629 have "to spend their labours studies in them," — which is also the reading of the edition 1633, except that it has a comma after "labours." "Labours and studies" is the reading of modern editions; but I think it is more likely that one of the words was meant to be substituted for the other.

[2] De Aug. vi. 2.

[3] Besides Ramus himself and Carpentier, one of the principal persons in this controversy was the Cardinal D'Ossat, of whom some account will be found in De Thou's memoirs. — *R. L. E.*

taineth the rules of judgment upon that which is to be delivered; for judgment precedeth Delivery, as it followeth Invention.[1] Neither is the method or the nature of the tradition material only to the *use* of knowledge, but likewise to the *progression* of knowledge: for since the labour and life of one man cannot attain to perfection of knowledge, the wisdom of the Tradition is that which inspireth the felicity of continuance and proceeding. And therefore the most real diversity of method is of method referred to Use, and method referred to Progression; whereof the one may be termed Magistral, and the other of Probation.[2]

The later whereof seemeth to be *via deserta et intercluſa*, [a way that is abandoned and stopped up]. For as knowledges are now delivered, there is a kind of contract of error between the deliverer and the receiver: for he that delivereth knowledge desireth to deliver it in such form as may be best believed, and not as may be best examined; and he that receiveth knowledge desireth rather present satisfaction than expectant inquiry; and so rather not to doubt than not to err: glory making the author not to lay open his weakness, and sloth making the disciple not to know his strength.

But knowledge that is delivered as a thread to be spun on, ought to be delivered and intimated,[3] if it were possible, *in the same method wherein it was invented;* and so is it possible of knowledge induced.

[1] So edd. 1629 and 1633. The original has *Inventions*.

[2] Called *Initiativa* in the translation; and explained to mean the method which discloses the inner mysteries of science; and distinguished from the other not as more secret but as more profound; the one announcing the results of enquiry, the other exhibiting the method and process which led to them.

[3] So in all the editions; but probably a misprint for *insinuated*. The translation has *insinuanda*.

But in this same anticipated and prevented knowledge, no man knoweth how he came to the knowledge which he hath obtained. But yet nevertheless, *secundum majus et minus*, a man may revisit and descend unto the foundations of his knowledge and consent; and so transplant it into another as it grew in his own mind. For it is in knowledges as it is in plants: if you mean to use the plant, it is no matter for the roots; but if you mean to remove it to grow, then it is more assured to rest upon roots than slips. So the delivery of knowledges (as it is now used) is as of fair bodies of trees without the roots; good for the carpenter, but not for the planter; but if you will have sciences grow, it is less matter for the shaft or body of the tree, so you look well to the taking up of the roots. Of which kind of delivery the method of the mathematiques, in that subject, hath some shadow; but generally I see it neither put in ure nor put in inquisition, and therefore note it for deficient.

De Methodo sincera, sive ad filios Scientiarum.[1]

Another diversity of Method there is, which hath some affinity with the former, used in some cases by the discretion of the ancients, but disgraced since by the impostures of many vain persons, who have made it as a false light for their counterfeit merchandises; and that is, Enigmatical and Disclosed.[2] The pretence

[1] In the translation he gives it the additional name of *Traditio Lampadis*; alluding to the transmission of the lighted torch from one to another in the Greek torch-race. See Preface to *Nov. Org.* p. 154. note.

[2] In the translation he calls the latter *exoterica*, the former *acroamatica*; and explains that the affinity between the *acroamatica* and the *initiativa* lies in this only — that each addresses itself to a select audience; for in themselves (*re ipsa*) they are opposite; the *initiativa* adopting a method of delivery more open than ordinary; the *acroamatica*, one more obscure; the "vulgar capacities" being excluded in the one case by the necessary subtilty of the argument, in the other by an affected obscurity in the ex-

whereof[1] is to remove the vulgar capacities from being admitted to the secrets of knowledges, and to reserve them to selected auditors, or wits of such sharpness as can pierce the veil.

Another diversity of Method, whereof the consequence is great, is the delivery of knowledge in Aphorisms, or in Methods; wherein we may observe that it hath been too much taken into custom, out of a few Axioms or observations upon any subject to make a solemn and formal art; filling it with some discourses, and illustrating it with examples, and digesting it into a sensible Method; but the writing in Aphorisms hath many excellent virtues, whereto the writing in Method doth not approach.

For first, it trieth the writer, whether he be superficial or solid: for Aphorisms, except they should be ridiculous, cannot be made but of the pith and heart of sciences; for discourse of illustration is cut off; recitals of examples are cut off; discourse of connexion and order is cut off; descriptions of practice are cut off; so there remaineth nothing to fill the Aphorisms but some good quantity of observation: and therefore no man can suffice, nor in reason will attempt, to write Aphorisms, but he that is sound and grounded. But in Methods,

Tantum series juncturaque, pollet
Tantum de medio sumptis accedit honoris,

[the arrangement and connexion and joining of the parts has so much effect,] as a man shall make a great shew of an art, which if it were disjointed would come to little. Secondly, Methods are more fit to win consent

position. Concerning the latter method, see Preface to the *Novum Organum*, note B.

[1] *i. e.* of the enigmatical method.

or belief, but less fit to point to action; for they carry a kind of demonstration in orb or circle, one part illuminating another, and therefore satisfy; but particulars, being dispersed, do best agree with dispersed directions. And lastly, Aphorisms, representing a knowledge broken, do invite men to enquire farther; whereas Methods, carrying the shew of a total, do secure men, as if they were at furthest.

Another diversity of Method, which is likewise of great weight, is the handling of knowledge by Assertions and their Proofs, or by Questions and their Determinations; the latter kind whereof, if it be immoderately followed, is as prejudicial to the proceeding of learning, as it is to the proceeding of an army to go about to besiege every little fort or hold. For if the field be kept and the sum of the enterprise pursued, those smaller things will come in of themselves: indeed[1] a man would not leave some important piece enemy at his back. In like manner, the use of confutation in the delivery of sciences ought to be very sparing; and to serve to remove strong preoccupations and prejudgments, and not to minister and excite disputations and doubts.

Another diversity of Methods is *according to the subject or matter which is handled;* for there is a great difference in delivery of the Mathematics, which are the most abstracted of knowledges, and Policy, which is the most immersed: and howsoever contention hath been moved touching an uniformity of method in multiformity of matter, yet we see how that opinion, besides the weakness of it, hath been of ill desert towards learning, as that which taketh the way to reduce learn-

[1] *i. e.* "although indeed:" (*illud tamen inficias non iverim, &c.*)

ing to certain empty and barren generalities; being but the very husks and shells of sciences, all the kernel being forced out and expulsed with the torture and press of the method;[1] and therefore as I did allow well of particular Topics for invention, so I do allow likewise of particular Methods of tradition.

Another diversity of judgment[2] in the delivery and teaching of knowledge is *according unto the light and presuppositions of that which is delivered;* for that knowledge which is new and foreign from opinions received, is to be delivered in another form than that that is agreeable[3] and familiar; and therefore Aristotle, when he thinks to tax Democritus, doth in truth commend him, where he saith, *If we shall indeed dispute, and not follow after similitudes*, &c. For those whose conceits are seated in popular opinions, need only but to prove or dispute; but those whose conceits are beyond popular opinions, have a double labour; the one to make themselves conceived, and the other to prove and demonstrate; so that it is of necessity with them to have recourse to similitudes and translations to express themselves. And therefore in the infancy of learning, and in rude times, when those conceits which are now trivial were then new, the world was full of Parables and Similitudes; for else would men either

[1] This observation is introduced in the translation at the beginning of the chapter, and applied particularly to the method of *dichotomies;* which are not mentioned, I think, by name in the *Advancement.*

[2] *i. e.* a diversity of method to be used with judgment. (*Sequitur aliud methodi discrimen in tradendis scientiis cum judicio adhibendum.*) This may perhaps be an error of the press or of the transcriber, some words having accidentally dropped out. It may however be merely an effect of hasty composition, of which there are many evidences in this part of the work.

[3] *i. e.* in accordance with received opinions. (*Opinionibus jam pridem imbibitis et receptis affinis.*)

have passed over without mark or else rejected for paradoxes that which was offered, before they had understood or judged. So in divine learning we see how frequent Parables and Tropes are:[1] for it is a rule, *That whatsoever science is not consonant to presuppositions, must pray in aid of similitudes.*

There be also other diversities of Methods, vulgar and received; as that of Resolution or Analysis, of Constitution or Systasis, of Concealment or Cryptic,[2] &c. which I do allow well of; though I have stood upon those which are least handled and observed. All which I have remembered to this purpose, because I would erect and constitute one general inquiry, which seems to me deficient, touching the Wisdom of Tradition.

De prudentia Traditionis.

But unto this part of knowledge concerning Method doth further belong not only the Architecture of the whole frame of a work, but also the several beams and columns thereof; not as to their stuff, but as to their quantity and figure; and therefore Method considereth not only the disposition of the Argument or Subject, but likewise the Propositions; not as to their truth or matter, but as to their limitation and manner. For herein Ramus merited better a great deal in reviving the good rules of Propositions, Καθόλου πρῶτον, κατὰ παντός, &c.[3] than he did in introducing the canker of Epitomes;[4] and yet (as it is the condition of human things

[1] This allusion to divine learning is omitted in the translation.

[2] In the translation he adds *Diœretica* and *Homerica*, and observes that he does not dwell upon these because they have been rightly invented and distributed.

[3] That they should be true generally, primarily, and essentially.—*R. L. E.*

[4] Instead of "the canker of Epitomes," the translation substitutes "his peculiar method and dichotomies."

that, according to the ancient fables, *The most precious things have the most pernicious keepers ;*) it was so, that the attempt of the one made him fall upon the other.[1] For he had need be well conducted that should design to make Axioms *convertible*, if he make them not withal *circular*, and *non-promovent*, or *incurring into themselves:* but yet the intention was excellent.

The other considerations of Method concerning Propositions are chiefly touching the utmost propositions, which limit the dimensions of sciences; for every knowledge may be fitly said, besides the profundity, (which is the truth and substance of it, that makes it solid,) to have a longitude and a latitude; accounting the latitude towards other sciences, and the longitude towards action; that is, from the greatest generality to the most particular precept: the one giveth rule how far one knowledge ought to intermeddle within the province of another, which is the rule they call Καθαυτὸ;[2] the other giveth rule unto what degree of particularity a knowledge should descend: which latter I find passed over in silence, being in my judgment the more material; for certainly there must be somewhat left to practice;[3] but how much is worthy the inquiry. We see remote and superficial generalities do but offer knowledge to scorn of practical men; and are no more aiding to practice, than an Ortelius' universal map is to direct the way between London and York. The

[1] The attempt to amend propositions cast him upon those epitomes and shallows of knowledge, as they are called in the translation — *epitomas illas et scientiarum vada.*

[2] This is omitted in the translation. "The rule they call καθαυτὸ" is the rule that propositions should be true *essentially.*

[3] For we must not fall into the error of Antoninus Pius (he adds in the translation) — to become *Cymini Sectores*, multiplying divisions to the last degree of minuteness.

better sort of rules have been not unfitly compared to glasses of steel unpolished, where you may see the images of things, but first they must be filed: so the rules will help, if they be laboured and polished by practice. *De productione Axiomatum.* But how chrystalline they may be made at the first, and how far forth they may be polished aforehand, is the question; the inquiry whereof seemeth to me deficient.

There hath been also laboured and put in practice a method, which is not a lawful method, but a method of imposture; which is to deliver knowledges in such manner, as men may speedily come to make a shew of learning who have it not: such was the travail of Raymundus Lullius, in making that art which bears his name; not unlike to some books of Typocosmy which have been made since; being nothing but a mass of words of all arts, to give men countenance that those which use the terms might be thought to understand the art; which collections are much like a fripper's or broker's shop, that hath ends of every thing, but nothing of worth.

¶ [1] Now we descend to that part which concerneth the Illustration of Tradition, comprehended in that science which we call Rhetoric, or Art of Eloquence; a science excellent, and excellently well laboured. For although in true value it is inferior to wisdom, as it is said by God to Moses, when he disabled himself for want of this faculty, *Aaron shall be thy speaker, and thou shalt be to him as God;* yet with people it is the more mighty: for so Salomon saith, *Sapiens corde appellabitur prudens, sed dulcis eloquio majora reperiet,* [the wise in heart shall be called prudent, but he that

[1] De Aug. vi. 3.

is sweet of speech shall compass greater things;] signifying that profoundness of wisdom will help a man to a name or admiration, but that it is eloquence that prevaileth in an active life. And as to the labouring of it, the emulation of Aristotle with the rhetoricians of his time, and the experience of Cicero, hath made them in their works of Rhetorics exceed themselves. Again, the excellency of examples of eloquence in the orations of Demosthenes and Cicero, added to the perfection of the precepts of eloquence, hath doubled the progression in this art; and therefore the deficiences which I shall note will rather be in some collections which may as handmaids attend the art, than in the rules or use of the art itself.

Notwithstanding, to stir the earth a little about the roots of this science, as we have done of the rest: The duty and office of Rhetoric is *to apply Reason to Imagination*[1] for the better moving of the will. For we see Reason is disturbed in the administration thereof by three means; by Illaqueation or Sophism, which pertains to Logic; by Imagination or Impression,[2] which pertains to Rhetoric; and by Passion or Affection, which pertains to Morality.[3] And as in negotiation with others men are wrought by cunning, by importunity, and by vehemency; so in this negotiation within ourselves men are undermined by Inconsequences, solicited and importuned by Impressions or Observations, and transported by Passions. Neither is the nature of man so unfortunately built, as that

[1] Rhetoric being to the Imagination what Logic is to the Understanding. — *De Aug.*

[2] In the translation he substitutes *per præstigias verborum*; false impressions produced by words on the imagination.

[3] *i. e.* moral philosophy. (*Ethica.*)

those powers and arts should have force to disturb reason, and not to establish and advance it: for the end of Logic is to teach a form of argument to secure reason, and not to entrap it; the end of Morality is to procure the affections to obey[1] reason, and not to invade it; the end of Rhetoric is to fill the imagination to second reason, and not to oppress it: for these abuses of arts come in but *ex obliquo*, for caution.

And therefore it was great injustice in Plato, though springing out of a just hatred of the rhetoricians of his time, to esteem of Rhetoric but as a voluptuary art, resembling it to cookery, that did mar wholesome meats, and help unwholesome by variety of sauces to the pleasure of the taste. For we see that speech is much more conversant in adorning that which is good than in colouring that which is evil; for there is no man but speaketh more honestly than he can do or think: and it was excellently noted by Thucydides in Cleon,[2] that because he used to hold on the bad side in causes of estate, therefore he was ever inveighing against eloquence and good speech; knowing that no man can speak fair of courses sordid and base. And therefore as Plato said elegantly, *That virtue, if she could be seen, would move great love and affection;* so seeing that she cannot be shewed to the Sense by corporal shape, the next degree is to shew her to the Imagination in lively representation: for to shew her to Reason only in subtilty of argument, was a thing

[1] In the translation he says *ut rationi militent;* to fight on the side of reason.

[2] In the translation he says, more correctly, "it was noted by Thucydides *as a censure passed upon Cleon*" (*tale quidpiam solitum fuisse objici Cleoni*); for the observation is made by Diodotus in his answer to Cleon's speech, iii. 42.

ever derided in Chrysippus and many of the Stoics; who thought to thrust virtue upon men by sharp disputations and conclusions, which have no sympathy with the will of man.

Again, if the affections in themselves were pliant and obedient to reason, it were true there should be no great use of persuasions and insinuations to the will, more than of naked proposition and proofs; but in regard of the continual mutinies and seditions of the affections,

Video meliora, proboque;
Deteriora sequor:

[whereby they who not only see the better course, but approve it also, nevertheless follow the worse,] reason would become captive and servile, if Eloquence of Persuasions did not practise and win the Imagination from the Affection's part, and contract a confederacy between the Reason and Imagination against the Affections. For the affections themselves carry ever an appetite to good, as reason doth; the difference is, that *the affection beholdeth merely the present; reason beholdeth the future and sum of time;* and therefore the present filling the imagination more, reason is commonly vanquished; but after that force of eloquence and persuasion hath made things future and remote appear as present, then upon the revolt of the imagination reason prevaileth.

We conclude therefore, that Rhetoric can be no more charged with the colouring of the worse part, than Logic with Sophistry, or Morality with Vice.[1] For

[1] The last clause is omitted in the translation. I do not know why. For according to Bacon's doctrine, expounded originally in the *Meditationes Sacræ* upon the text *non accipit stultus verba prudentiæ nisi ea dixeris quæ versantur in corde ejus*, and repeated here a little further on,—namely,

we know the doctrines of contraries are the same, though the use be opposite. It appeareth also that Logic differeth from Rhetoric, not only as the fist from the palm, the one close the other at large; but much more in this, that Logic handleth reason exact and in truth, and Rhetoric handleth it as it is planted in popular opinions and manners. And therefore Aristotle doth wisely place Rhetoric as between Logic on the one side and moral or civil knowledge on the other, as participating of both: for the proofs and demonstrations of Logic are toward all men indifferent and the same; but the proofs and persuasions of Rhetoric ought to differ according to the auditors:

Orpheus in sylvis, inter delphinas Arion:

[to be in the woods an Orpheus, among the dolphins an Arion:] which application, in perfection of idea, ought to extend so far, that if a man should speak of the same thing to several persons, he should speak to them all respectively and several ways: though this *politic part of eloquence in private speech* it is easy for the greatest orators to want, whilst by the observing their well-graced forms of speech they leese the volubility of application: and therefore it shall not be amiss to recommend this to better inquiry;[1] not being curious whether we place it here, or in that part which concerneth policy.

De prudentia Sermonis privati.

Now therefore will I descend to the deficiences,

that a man can neither protect his own virtue against evil arts, nor reclaim others from vice, without the help of the knowledge of evil, — Morality has a relation to Vice exactly corresponding with that of Logic to Sophistry; unless it be maintained that the Logician ought to be prepared to practice Sophistry as well as to detect and defeat it.

[1] Being a thing which the more it is considered the more it will be valued (*rem certe quam quo attentius quis recogitet, eo pluris faciet*).

which (as I said) are but attendances:[1] and first, I do not find the wisdom and diligence of Aristotle well pursued, who began to make a collection of *the popular signs and colours of good and evil, both simple and comparative*, which are as the Sophisms of Rhetoric (as I touched before). For example: *Colores boni et mali, simplicis et comparati.*

SOPHISMA.

Quod laudatur, bonum: quod vituperatur, malum.

REDARGUTIO.

Laudat venales qui vult extrudere merces.
Malum est, malum est, inquit emptor: sed cum recesserit, tum gloriabitur.[2]

The defects in the labour of Aristotle are three: one, that there be but a few of many; another, that their Elenches are not annexed:[3] and the third, that he conceived but a part of the use of them: for their use is not only in probation, but much more in impression. For many forms are equal in signification which are differing in impression; as the difference is great in the piercing of that which is sharp and that which is flat, though the strength of the percussion be the same; for there is no man but will be a little more

[1] and which are all of the nature of collections for store (*pertinent omnia ad promptuariam*).

[2] SOPHISM. — That which people praise is good, that which they blame is bad.

ELENCHE. — He praises his wares who wants to get them off his hands.

It is naught, it is naught, sayth the buyer; but when he is gone he will vaunt.

[3] In the translation, instead of the single example given above, he inserts a collection of twelve, by way of specimen; each having the elenche annexed and completely explained. This collection is a translation, with corrections and additions, of the English tract entitled "Colours of Good and Evil," which was printed along with the Essays in 1597, and will be found in this edition among the literary works.

raised by hearing it said, *Your enemies will be glad of this:*

Hoc Ithacus velit, et magno mercentur Atridæ:

than by hearing it said only, *This is evil for you.*

Secondly, I do resume also that which I mentioned before touching Provision or Preparatory store for the furniture of speech and readiness of invention; which appeareth to be of two sorts; the one in resemblance to a shop of pieces unmade up, the other to a shop of things ready made up; both to be applied to that which is frequent and most in request: the former of these I will call *Antitheta*, and the latter *Formulæ*.

Antitheta are Theses argued *pro et contra;* wherein men may be more large and laborious: but (in such as are able to do it) to avoid prolixity of entry, I wish the seeds of the several arguments to be cast up into some brief and acute sentences; not to be cited, but to be as skeins or bottoms of thread, to be unwinded at large when they come to be used; supplying authorities and examples by reference.

Antitheta Rerum.

PRO VERBIS LEGIS.

Non est interpretatio, sed divinatio, quæ recedit a literâ.
Cum receditur a literâ, judex transit in legislatorem.

PRO SENTENTIA LEGIS.

Ex omnibus verbis est eliciendus sensus qui interpretatur singula.[1]

Formulæ are but decent and apt passages or convey-

[1] FOR THE WORDS OF THE LAW. — Interpretation which departs from the letter, is not interpretation but divination.

When the letter is departed from the Judge becomes the Lawgiver.

FOR THE INTENTION OF THE LAW. — The sense according to which each word is to be interpreted must be collected from all the words together.

Of these *antitheta* a large collection will be found in the *De Augmentis*, set forth by way of specimen in the manner here recommended.

ances of speech, which may serve indifferently for differing subjects; as of preface, conclusion, digression, transition, excusation, &c. For as in buildings there is great pleasure and use in the well-casting of the stair-cases, entries, doors, windows, and the like; so in speech the conveyances and passages are of special ornament and effect.

A CONCLUSION IN A DELIBERATIVE.

So may we redeem the faults passed, and prevent the inconveniences future.[1]

¶ [2] There remain two appendices touching the tradition of knowledge, the one Critical, the other Pedantical.[3] For all knowledge is either delivered by teachers, or attained by men's proper endeavours: and therefore as the principal part of tradition of knowledge concerneth chiefly writing[4] of books, so the relative part thereof concerneth reading of books. Whereunto appertain incidently these considerations. The first is concerning the true correction and edition of authors; wherein nevertheless rash diligence hath done great prejudice. For these critics have often presumed that that which they understand not is false set down: as the Priest that where he found it written of St. Paul, *Demissus est per sportam*, [he was let down in a basket,] mended his book, and made it *Demissus est per portam*, [he was let out by the gate;]

[1] Of these *formulæ* — or *formulæ minores* as he afterwards called them — three other examples are given in the *De Augmentis*, all from Cicero. Bacon's own speeches and narrative writings would supply many very good ones.

[2] De Aug. vi. 4.

[3] *Pædagogica*, in the translation.

[4] *in writing*, in the original; and also in the editions 1629 and 1633. The translation has *in lectione librorum consistit.*

because *sporta* was an hard word, and out of his reading;[1] and surely their errors, though they be not so palpable and ridiculous, are yet of the same kind. And therefore as it hath been wisely noted, the most corrected copies are commonly the least correct.

The second is concerning the exposition and explication of authors, which resteth in annotations and commentaries; wherein it is over usual to blanch the obscure places, and discourse upon the plain.

The third is concerning the times, which in many cases give great light to true interpretations.[2]

The fourth is concerning some brief censure and judgment of the authors; that men thereby may make some election unto themselves what books to read.

And the fifth is concerning the syntax and disposi-

[1] For this illustration, which as reflecting upon a Priest might have been offensive at Rome, another is substituted in the *De Augmentis*, which is "not so palpable and ridiculous." A striking instance of the same kind occurs in two recent editions of this very work. In an edition of the *Advancement of Learning*, published by J. W. Parker in 1852, *Orosius* is substituted for *Osorius* in the passage (p. 119.), "Then grew the flowing and watery vein of Osorius, the Portugal Bishop, to be in price;" with the following note: "All the editions have *Osorius*, which however must be a mere misprint. He was not a Portuguese, but a Spaniard, born at Tarragona, nor indeed ever a bishop. He was sent by St. Augustine on a mission to Jerusalem, and is supposed to have died in Africa in the earlier part of the fifth century." In the following year Mr. H. Bohn published a translation of the *De Augmentis*, which is little more than a reprint of Shaw's translation, revised and edited by Mr. Joseph Devey. In this edition *Orosius* is silently substituted for *Osorius* in the same passage, with this note: "Neither a Portuguese, nor a bishop, but a Spanish monk born at Tarragona, and sent by St. Augustine on a mission to Jerusalem in the commencement of the fifth century." The mistake is the more remarkable because the passage in Bacon refers obviously and unmistakably to the period of the Reformation.

[2] This point is omitted in the translation, except in so far as it is involved in an observation which is added under the next head — viz. that editors besides giving "some brief censure and judgment of their authors" should compare them with other writers on the same subjects. But I am

tion of studies; that men may know in what order or pursuit to read.[1]

For Pedantical knowledge, it containeth that difference of Tradition which is proper for youth; whereunto appertain divers considerations of great fruit.

As first, the timing and seasoning of knowledges; as with what to initiate them, and from what for a time to refrain them.

Secondly, the consideration where to begin with the easiest and so proceed to the more difficult; and in what courses[2] to press the more difficult and then to turn them to the more easy: for it is one method to practise swimming with bladders, and another to practise dancing with heavy shoes.

A third is the application of learning according unto the propriety of the wits; for there is no defect in the faculties intellectual but seemeth to have a proper cure contained in some studies: as for example, if a child be bird-witted, that is, hath not the faculty of attention, the Mathematics giveth a remedy thereunto; for in them, if the wit be caught away but a moment, one is new to begin. And as sciences have a propriety towards faculties for cure and help, so faculties or powers have a sympathy towards sciences for excellency or speedy profiting; and therefore it is an inquiry of great wisdom, what kinds of wits and natures are most apt and proper for what sciences.

inclined to suspect that the omission was accidental; for the truth is, that without constant reference to the times and circumstances in which he wrote hardly any author can be properly understood.

[1] This point is also omitted in the translation; perhaps as included in the "censure and judgment;" which (he adds) is as it were the Critic's chair; an office ennobled in his time by some great men, *majores certe nostro judicio quam pro modulo criticorum*, — men above the stature of critics.

[2] So all the editions: probably a misprint for *cases*.

Fourthly, the ordering of exercises is matter of great consequence to hurt or help; for as is well observed by Cicero, men in exercising their faculties, if they be not well advised, do exercise their faults and get ill habits as well as good; so as there is a great judgment to be had in the continuance and intermission of exercises. It were too long to particularise a number of other considerations of this nature, things but of mean appearance, but of singular efficacy. For as the wronging or cherishing of seeds or young plants is that that is most important to their thriving; and as it was noted that the first six kings being in truth as tutors of the state of Rome in the infancy thereof, was the principal cause of the immense greatness of that state which followed: so the culture and manurance of minds in youth hath such a forcible (though unseen) operation, as hardly any length of time or contention of labour can countervail it afterwards. And it is not amiss to observe also how small and mean faculties gotten by education, yet when they fall into great men or great matters, do work great and important effects; whereof we see a notable example in Tacitus of two stage-players, Percennius and Vibulenus, who by their faculty of playing put the Pannonian armies into an extreme tumult and combustion. For there arising a mutiny amongst them upon the death of Augustus Cæsar, Blæsus the lieutenant had committed some of the mutiners; which were suddenly rescued; whereupon Vibulenus got to be heard speak, which he did in this manner: — *These poor innocent wretches, appointed to cruel death, you have restored to behold the light. But who shall restore my brother to me, or life unto my brother? that was sent hither in message from*

the legions of Germany to treat of the common cause, and he hath murdered him this last night by some of his fencers and ruffians, that he hath about him for his executioners upon soldiers. Answer, Blœsus, what is done with his body? The mortalest enemies do not deny burial. When I have performed my last duties to the corpse with kisses, with tears, command me to be slain besides him; so that these my fellows, for our good meaning and our true hearts to the legions, may have leave to bury us.[1]

[1] The last clause does not give the exact meaning of the original, from which it may seem that Bacon was reporting the speech from memory; unless it be that a line has accidentally dropped out. By inserting after "fellows" the words "seeing us put to death for no crime, but only for," &c. the sense would be represented with sufficient accuracy.

In the translation, this passage relating to "Pedantical knowledge," — that is the knowledge which concerns the instruction of youth, — is considerably enlarged, and a distinct opinion is expressed upon many of the points which are here only noticed as worthy of enquiry. He begins by recommending the schools of the Jesuits as the best model, — an opinion which he had already intimated in the first book of the *Advancement*. He approves of a collegiate education both for boys and young men, as distinguished from a private education under masters. He wishes compendiums to be avoided, and the system which, aiming at precocity, produces overconfidence and a mere shew of proficiency. He would encourage independence of mind, and if any one shews a taste for studies which lie out of the regular course, and can find time to pursue them, he would by no means have him restrained. Of the two methods mentioned in the text, one beginning with the easiest tasks, the other with the most difficult, he recommends a judicious intermixture, as best for the advancement of the powers both of mind and body. With regard to the "application of learning according unto the propriety of the wits," he observes (besides its use as a corrective of mental defects) that masters ought to attend to it for the guidance of the parents in choosing their sons' course of life; and also because a man will advance so much faster in studies for which he has a natural aptitude than in any others. With regard to the "ordering of exercises" he recommends the system of intermissions. (*Itaque tutius est intermittere exercitia et subinde repetere, quam assidue continuare et urgere.*) Lastly he would decidedly have the art of *acting* (*actio theatralis*) made a part of the education of youth. The Jesuits, he says, do not despise it; and he thinks they are right; for though it be of ill repute as a profession (*si sit professoria, infamis est*) yet as a part of *discipline* it is of excellent use. It strengthens the memory, it regulates the tone and effect of the

With which speech he put the army into an infinite fury and uproar; whereas truth was he had no brother, neither was there any such matter, but he played it merely as if he had been upon the stage.

But to return: we are now come to a period of Rational Knowledges; wherein if I have made the divisions other than those that are received, yet would I not be thought to disallow all those divisions which I do not use. For there is a double necessity imposed upon me of altering the divisions. The one, because it differeth in end and purpose, to sort together those things which are next in nature, and those things which are next in use. For if a secretary of state should sort his papers, it is like in his study or general cabinet he would sort together things of a nature, as treaties, instructions, &c. but in his boxes or particular cabinet he would sort together those that he were like to use together, though of several natures; so in this general cabinet of knowledge it was necessary for me to follow the divisions of the nature of things; whereas if myself had been to handle any particular knowledge, I would have respected the divisions fittest for use. The other, because the bringing in of the deficiences did by consequence alter the

voice and pronunciation, it teaches a decent carriage of the countenance and gesture, it begets no small degree of confidence, and accustoms young men to bear being looked at. In Bacon's time, when masques acted by young gentlemen of the Universities or Inns of Court were the favourite entertainment of princes, these things were probably better attended to than they are now — and he could have pointed no doubt to many living examples in illustration of his remark. The examples which modern experience supplies are all of the negative kind, but not therefore the less significant. The art of speaking, of recitation, even of reading aloud, is not now taught at all; and the consequence is, that even among men otherwise accomplished not many will be found who can either speak a speech of their own, or recite the speech of another, or read a book aloud, so as to be listened to with pleasure in a mixed company for a quarter of an hour together.

partitions of the rest: for let the knowledge extant (for demonstration sake) be fifteen; let the knowledge with the deficiences be twenty; the parts of fifteen are not the parts of twenty; for the parts of fifteen are three and five; the parts of twenty are two, four, five, and ten. So as these things are without contradiction, and could not otherwise be.

¶ [1] We proceed now to that knowledge which considereth of the Appetite [2] and Will of Man; whereof Salomon saith, *Ante omnia, fili, custodi cor tuum; nam inde procedunt actiones vitæ:* [keep thy heart with all diligence, for thereout come the actions of thy life]. In the handling of this science, those which have written seem to me to have done as if a man that professeth to teach to write did only exhibit fair copies of alphabets and letters joined, without giving any precepts or directions for the carriage of the hand and framing of the letters. So have they made good and fair exemplars and copies, carrying the draughts and portraitures of Good, Virtue, Duty, Felicity; propounding them well described as the true objects and scopes of man's will and desires; but how to attain these excellent marks, and how to frame and subdue the will of man to become true and conformable to these pursuits, they pass it over altogether or slightly and unprofitably. For it is not the disputing *that moral virtues are in the mind of man by habit and not by nature*, or the distinguishing *that generous spirits are won by doctrines and persuasions, and the vulgar sort by reward and punishment*,[3]

[1] De Aug. vii. 1.

[2] In the translation the word *Appetite* is omitted: and the Will is described as governed by right reason, seduced by apparent good, having the passions for spurs, the organs and voluntary motions for ministers.

[3] Or the giving it in precept (he adds in the translation) that if you

and the like scattered glances and touches, that can excuse the absence of this part.

The reason of this omission I suppose to be that hidden rock whereupon both this and many other barks of knowledge have been cast away; which is, that men have despised to be conversant in ordinary and common matters; the judicious direction whereof nevertheless is the wisest doctrine (for life consisteth not in novelties or subtilities); but contrariwise they have compounded sciences chiefly of a certain resplendent or lustrous mass of matter, chosen to give glory either to the subtility of disputations or to the eloquence of discourses. But Seneca giveth an excellent check to eloquence; *Nocet illis eloquentia, quibus non rerum cupiditatem facit, sed sui:* [eloquence does mischief when it draws men's attention away from the matter to fix it on itself]. Doctrines should be such as should make men in love with the lesson, and not with the teacher; being directed to the auditor's benefit, and not to the author's commendation: and therefore those are of the right kind which may be concluded as Demosthenes concludes his counsel, *Quæ si feceritis, non oratorem duntaxat in præsentia laudabitis, sed vosmetipsos etiam non ita multo post statu rerum vestrarum meliore:* [if you follow this advice you will do a grace to yourselves no less than to the speaker,— to him by your vote today, to yourselves by the improvement which you will presently find in your affairs].

Neither needed men of so excellent parts to have despaired of a fortune which the poet Virgil promised himself, (and indeed obtained,) who got as much glory

would rectify the mind you must bend it like a wand in the direction contrary to its inclination.

of eloquence, wit, and learning in the expressing of the observations of husbandry, as of the heroical acts of Æneas:—

> Nec sum animi dubius, verbis ea vincere magnum
> Quam sit, et angustis his addere rebus honorem.
> [How hard the task alas full well I know
> With charm of words to grace a theme so low.]

And surely if the purpose be in good earnest not to write at leisure that which men may read at leisure, but really to instruct and suborn action and active life, these Georgics of the mind, concerning the husbandry and tillage thereof, are no less worthy than the heroical descriptions of Virtue, Duty, and Felicity. Wherefore the main and primitive division of moral knowledge seemeth to be into the Exemplar or Platform of Good, and the Regiment or Culture of the Mind; the one describing the nature of good, the other prescribing rules how to subdue, apply, and accommodate the will of man thereunto.

The doctrine touching the Platform or Nature of Good considereth it either Simple or Compared; either the kinds of good, or the degrees of good: in the later whereof those infinite disputations which were touching the supreme degree thereof, which they term felicity, beatitude, or the highest good, the doctrines concerning which were as the heathen divinity, are by the Christian faith discharged. And as Aristotle saith, *That young men may be happy, but not otherwise but by hope;* so we must all acknowledge our minority, and embrace the felicity which is by hope of the future world.

Freed therefore and delivered from this doctrine of the philosophers' heaven, whereby they feigned an higher elevation of man's nature than was, (for we see in

what an height of style Seneca writeth, *Vere magnum, habere fragilitatem hominis, securitatem Dei*, [it is true greatness to have in one the frailty of a man and the security of a God,] we may with more sobriety and truth receive the rest of their inquiries and labours. Wherein for the Nature of Good Positive or Simple, they have set it down excellently, in describing the forms of Virtue and Duty, with their situations and postures, in distributing them into their kinds, parts, provinces, actions, and administrations, and the like: nay farther, they have commended them to man's nature and spirit with great quickness of argument and beauty of persuasions; yea, and fortified and intrenched them (as much as discourse can do) against corrupt and popular opinions. Again, for the Degrees and Comparative Nature of Good, they have also excellently handled it in their triplicity of Good, in the comparisons between a contemplative and an active life, in the distinction between virtue with reluctation and virtue secured, in their encounters between honesty and profit, in their balancing of virtue with virtue, and the like; so as this part deserveth to be reported for excellently laboured.[1]

Notwithstanding, if before they had comen to the popular and received notions of virtue and vice, pleasure and pain, and the rest, they had stayed a little longer upon the inquiry concerning the roots of good and evil, and the strings of those roots, they had given, in my opinion, a great light to that which followed; and specially if they had consulted with nature, they had

[1] Well by the ancient philosophers, but still better (according to the translation) by the divines in their discussions of moral duties and virtues, cases of conscience, sins, &c.

made their doctrines less prolix and more profound; which being by them in part omitted and in part handled with much confusion, we will endeavour to resume and open in a more clear manner.

There is formed in every thing a double nature of good: the one, as every thing is a total or substantive in itself; the other, as it is a part or member of a greater body; whereof the later is in degree the greater and the worthier, because it tendeth to the conservation of a more general form. Therefore we see the iron in particular sympathy moveth to the loadstone; but yet if it exceed a certain quantity, it forsaketh the affection to the loadstone, and like a good patriot moveth to the earth, which is the region and country of massy bodies; so may we go forward, and see that water and massy bodies move to the centre of the earth; but rather than to suffer a divulsion in the continuance of nature, they will move upwards from the centre of the earth, forsaking their duty to the earth in regard of their duty to the world. This double nature of good, and the comparative thereof, is much more engraven upon man, if he degenerate not; unto whom the conservation of duty to the public ought to be much more precious than the conservation of life and being: according to that memorable speech of Pompeius Magnus, when being in commission of purveyance for a famine at Rome, and being dissuaded with great vehemency and instance by his friends about him that he should not hazard himself to sea in an extremity of weather, he said only to them, *Necesse est ut eam, non ut vivam:* [it is needful that I go, not that I live]. But it may be truly affirmed that there was never any philosophy, religion, or other discipline, which did so plainly and highly exalt

the good which is communicative, and depress the good which is private and particular, as the Holy Faith; well declaring, that it was the same God that gave the Christian law to men, who gave those laws of nature to inanimate creatures that we spake of before; for we read that the elected saints of God have wished themselves anathematized and razed out of the book of life, in an ecstasy of charity and infinite feeling of communion.

This being set down and strongly planted, doth judge and determine most of the controversies wherein Moral Philosophy is conversant. For first it decideth the question touching the preferment of the contemplative or active life, and decideth it against Aristotle. For all the reasons which he bringeth for the contemplative are private, and respecting the pleasure and dignity of a man's self, (in which respects no question the contemplative life hath the pre-eminence:) not much unlike to that comparison which Pythagoras made for the gracing and magnifying of philosophy and contemplation; who being asked what he was, answered, *That if Hiero were ever at the Olympian games, he knew the manner, that some came to try their fortune for the prizes, and some came as merchants to utter their commodities, and some came to make good cheer and meet their friends, and some came to look on; and that he was one of them that came to look on.* But men must know, that in this theatre of man's life it is reserved only for God and Angels to be lookers on. Neither could the like question ever have been received in the church, notwithstanding their *Pretiosa in oculis Domini mors sanctorum ejus*, [precious in the sight of the Lord is the death of his saints,] by which place they would exalt

their civil death and regular professions, but upon this defence, that the monastical life is not simple[1] contemplative, but performeth the duty either of incessant prayers and supplications, which hath been truly esteemed as an office in the church, or else of writing or taking[2] instructions for writing concerning the law of God, as Moses did when he abode so long in the mount. And so we see Henoch the seventh from Adam, who was the first Contemplative and walked with God, yet did also endow the church with prophecy, which St. Jude citeth. But for contemplation which should be finished in itself without casting beams upon society, assuredly divinity knoweth it not.

It decideth also the controversies between Zeno and Socrates and their schools and successions on the one side, who placed felicity in virtue simply or attended; the actions and exercises whereof do chiefly embrace and concern society; and on the other side,[3] the Cyrenaics and Epicureans, who placed it in pleasure, and made virtue (as it is used in some comedies of errors, wherein the mistress and the maid change habits,) to be but as a servant, without which pleasure cannot be served and attended; and the reformed school of the Epicureans, which placed it in serenity of mind and freedom from perturbation; as if they would have deposed Jupiter again, and restored Saturn and the first

[1] Edd. 1629 and 1633 have *simply*.

[2] So edd. 1629 and 1633. The original has *in taking*. In the translation the words "taking instructions for writing" are omitted; as applicable, I suppose, to the case of Moses only, not of the Church; and *multo in otio* substituted.

[3] *Et reliquas complures sectas et scholas, ex altera parte: veluti*, &c. All the opinions which are about to be cited belong to "the other side" — *i. e.* the side opposed to that of Zeno and Socrates; a point which from the careless composition of the English is not immediately clear.

age, when there was no summer nor winter, spring nor autumn, but all after one air and season; and Herillus,[1] which placed felicity in extinguishment of the disputes of the mind, making no fixed nature of good and evil, esteeming things according to the clearness of the desires, or the reluctation;[2] which opinion was revived in the heresy of the Anabaptists, measuring things according to the motions of the spirit, and the constancy or wavering of belief: all which are manifest to tend to private repose and contentment, and not to point of society.

It censureth also the philosophy of Epictetus, which presupposeth that felicity must be placed in those things which are in our power, lest we be liable to fortune and disturbance: as if it were not a thing much more happy to fail in good and virtuous ends for the public, than to obtain all that we can wish to ourselves in our proper fortune; as Consalvo said to his soldiers, shewing them Naples, and protesting he had rather die one foot forwards than to have his life secured for long by one foot of retreat; whereunto the wisdom of that heavenly leader hath signed, who hath affirmed that *a good conscience is a continual feast:* shewing plainly that the conscience of good intentions, howsoever succeeding, is a more continual joy to nature than all the provision which can be made for security and repose.

It censureth likewise that abuse of philosophy which grew general about the time of Epictetus, in converting

[1] The translation has "and lastly that exploded school of Pyrrho and Herillus."

[2] That is, esteeming those actions good which are attended with clearness and composure of mind, those bad which proceed with dislike and reluctation — (*actiones pro bonis aut malis habentes, prout ex animo, motu puro et irrefracto, aut contra cum aversatione et reluctatione, prodirent*).

it into an occupation or profession; as if the purpose had been, not to resist and extinguish perturbations, but to fly and avoid the causes of them, and to shape a particular kind and course of life to that end; introducing such an health of mind, as was that health of body of which Aristotle speaketh of Herodicus, who did nothing all his life long but intend his health: whereas if men refer themselves to duties of society, as that health of body is best which is ablest to endure all alterations and extremities, so likewise that health of mind is most proper[1] which can go through the greatest temptations and perturbations. So as Diogenes' opinion is to be accepted, who commended not them which abstained, but them which sustained, and could refrain their mind *in præcipitio*, and could give unto the mind (as is used in horsemanship) the shortest stop or turn.

Lastly, it censureth the tenderness and want of application[2] in some of the most ancient and reverend philosophers and philosophical men, that did retire too easily from civil business, for avoiding of indignities and perturbations; whereas the resolution of men truly moral ought to be such as the same Consalvo said the honour of a soldier should be, *e telâ crassiore*, [of a stouter web,] and not so fine as that every thing should catch in it and endanger it.

¶[3] To resume Private or Particular Good, it falleth into the division of Good Active and Passive: for this difference of Good (not unlike to that which amongst the Romans was expressed in the familiar or household

[1] *i. e.* that mind is to be considered truly and properly healthy — (*animus ille demum vere et propria sanus et validus censendus est*).

[2] meaning what we should now rather call want of compliance or accommodation — (*ineptitudinem ad morigerandum*).

[3] De Aug. vii. 2.

terms of Promus and Condus) is formed also in all things; and is best disclosed in the two several appetites in creatures, the one to preserve or continue themselves, and the other to dilate or multiply themselves; whereof the later seemeth to be the worthier. For in nature, the heavens, which are the more worthy, are the agent; and the earth, which is the less worthy, is the patient. In the pleasures of living creatures, that of generation is greater than that of food. In divine doctrine, *Beatius est dare quam accipere:* [it is more blessed to give than to receive]. And in life, there is no man's spirit so soft, but esteemeth the effecting of somewhat that he hath fixed in his desire more than sensuality. Which priority of the Active Good is much upheld by the consideration of our estate to be mortal and exposed to fortune; for if we might have a perpetuity and certainty in our pleasures, the *state*[1] of them would advance their price; but when we see it is but *Magni æstimamus mori tardius*, [we think it a great matter to be a little longer in dying,] and *Ne glorieris de crastino, nescis partum diei*, [boast not thyself of to-morrow, thou knowest not what the day may bring forth,] it maketh us to desire to have somewhat secured and exempted from time; which are only our deeds and works; as it is said *Opera eorum sequuntur eos:* [their works follow them]. The pre-eminence likewise of this Active Good is upheld by the affection which is natural in man towards variety and proceeding; which in the pleasures of the sense (which is the principal part of Passive Good) can have no great latitude: *Cogita quamdiu eadem feceris; cibus, somnus, ludus; per hunc circulum curritur; mori velle non tantum fortis,*

[1] *i. e.* the stability. (*securitas et mora.*)

aut miser, aut prudens, sed etiam fastidiosus potest: [if you consider, says Seneca, how often you do the same thing over and over; food sleep exercise, and then food sleep exercise again, and so round and round; you will think that there needs neither fortitude nor misery nor wisdom to reconcile a man to death; one might wish to die for mere weariness of being alive]. But in enterprises, pursuits, and purposes of life, there is much variety; whereof men are sensible with pleasure in their inceptions, progressions, recoils, reïntegrations, approaches, and attainings to their ends: so as it was well said, *Vita sine proposito languida et vaga est:* [life without an object to pursue is a languid and tiresome thing]. Neither hath this Active Good any[1] identity with the good of society, though in some case it hath an incidence into it: for although it do many times bring forth acts of beneficence, yet it is with a respect private to a man's own power, glory, amplification, continuance; as appeareth plainly when it findeth a contrary subject. For that gigantine state of mind which possesseth the troublers of the world, such as was Lucius Sylla, and infinite other in smaller model, who would have all men happy or unhappy as they were their friends or enemies, and would give form to the world according to their own humours, (which is the true Theomachy,) pretendeth and aspireth to active good,[2] though it recedeth furthest from good of society, which we have determined to be the greater.

To resume Passive Good, it receiveth a subdivision of Conservative and Perfective. For let us take a brief

[1] So edd. 1629 and 1633. The original has *and.*

[2] *i. e.* apparent good of the individual — (*bonum activum individuale saltem apparens*).

review of that which we have said: we have spoken first of the Good of Society, the intention whereof embraceth the form of Human Nature, whereof we are members and portions, and not our own proper and individual form; we have spoken of Active Good, and supposed it as a part of Private and Particular Good; and rightly;[1] for there is impressed upon all things a triple desire or appetite proceeding from love to themselves; one of preserving and continuing their form; another of advancing and perfecting their form; and a third of multiplying and extending their form upon other things; whereof the multiplying or signature of it upon other things is that which we handled by the name of Active Good. So as there remaineth the conserving of it, and perfecting or raising of it; which later is the highest degree of Passive Good. For to preserve in state is the less, to preserve with advancement is the greater. So in man,

> Igneus est ollis vigor, et cœlestis origo.[2]
> [The living fire that glows those seeds within
> Remembers its celestial origin.]

His approach or assumption to divine or angelical nature is the perfection of his form; the error or false imitation of which good is that which is the tempest of human life; while man, upon the instinct of an advancement formal and essential, is carried to seek an advancement local. For as those which are sick, and find no remedy, do tumble up and down and change

[1] This passage, from *for let us take* &c. to *rightly*, is omitted in the translation; and the argument proceeds more clearly without it.

[2] The connexion of this with the preceding sentence is made clearer in the translation by the remark that there are found throughout the universe certain nobler natures which inferior natures recognise as their origin and towards which they aspire.

place, as if by a remove local they could obtain a remove internal; so is it with men in ambition, when failing of the mean to exalt their nature, they are in a perpetual estuation to exalt their place. So then Passive Good is, as was said, either Conservative or Perfective.

To resume the good of Conservation or Comfort, which consisteth *in the fruition of that which is agreeable to our natures;* it seemeth to be the most pure and natural of pleasures, but yet the softest and the lowest. And this also receiveth a difference, which hath neither been well judged of nor well enquired. For the good of fruition or contentment is placed either in the sincereness of the fruition, or in the quickness and vigour of it; the one superinduced by the equality, the other by vicissitude; the one having less mixture of evil, the other more impression of good. Whether of these is the greater good, is a question controverted; but whether man's nature may not be capable of both, is a question not enquired.

The former question being debated between Socrates and a Sophist, Socrates placing felicity in an equal and constant peace of mind, and the Sophist in much desiring and much enjoying, they fell from argument to ill words: the Sophist saying that Socrates' felicity was the felicity of a block or stone; and Socrates saying that the Sophist's felicity was the felicity of one that had the itch, who did nothing but itch and scratch. And both these opinions do not want their supports. For the opinion of Socrates is much upheld by the general consent even of the Epicures themselves, that virtue beareth a great part in felicity; and if so, certain it is that virtue hath more use in clearing perturbations

than in compassing desires. The Sophist's opinion is much favoured by the assertion we last spake of, that good of advancement is greater than good of simple preservation; because every obtaining a desire hath a shew of advancement,[1] as motion though in a circle hath a shew of progression.

But the second question, decided the true way, maketh the former superfluous. For can it be doubted but that there are some who take more pleasure in enjoying pleasures than some other, and yet nevertheless are less troubled with the loss or leaving of them? so as this same *Non uti ut non appetas, non appetere ut non metuas, sunt animi pusilli et diffidentis:* [to abstain from the use of a thing that you may not feel a want of it; to shun the want that you may not fear the loss of it; are the precautions of pusillanimity and cowardice[2]]. And it seemeth to me, that most of the doctrines of the philosophers are more fearful and cautionary than the nature of things requireth. So have they increased the fear of death in offering to cure it. For when they would have a man's whole life to be but a discipline or preparation to die, they must needs make men think that it is a terrible enemy against whom there is no end of preparing. Better saith the poet:

> Qui finem vitæ extremum inter munera ponat
> Naturæ:

[the end of life is to be counted among the boons of nature]. So have they sought to make men's minds

[1] *i. e.* towards the perfection of nature; only a *shew* of advancement, however, not necessarily a real one — (*quia rerum cupitarum adeptiones naturam videantur sensim perficere; quod licet vere non faciant, tamen*, &c.

[2] Compare Shakspeare's sonnet —

> I cannot chuse
> But weep to have that which I fear to lose.

too uniform and harmonical, by not breaking them sufficiently to contrary motions: the reason whereof I suppose to be, because they themselves were men dedicated to a private, free, and unapplied course of life. For as we see, upon the lute or like instrument, a *ground*, though it be sweet and have shew of many changes, yet breaketh not the hand to such strange and hard stops and passages as a *set song* or *voluntary;* much after the same manner was the diversity between a philosopical and a civil life.[1] And therefore men are to imitate the wisdom of jewellers; who, if there be a grain or a cloud or an ice which may be ground forth without taking too much of the stone, they help it; but if it should lessen and abate the stone too much, they will not meddle with it: so ought men so to procure serenity as they destroy not magnanimity.

Having therefore deduced the Good of Man which is Private and Particular as far as seemeth fit, we will now return to that good of man which respecteth and beholdeth society, which we may term Duty; because the term of Duty is more proper to a mind well framed and disposed towards others, as the term of Virtue is applied to a mind well formed and composed in itself; though neither can a man understand Virtue without some relation to society, nor Duty without an inward disposition. This part may seem at first to pertain to science civil and politic; but not if it be well observed. For it concerneth the regiment and government of every man over himself, and not over others. And as in architecture the direction of framing the posts, beams, and other parts of building, is not the same

[1] This illustration is omitted in the translation.

with the manner of joining them and erecting the building; and in mechanicals, the direction how to frame an instrument or engine, is not the same with the manner of setting it on work and employing it; and yet nevertheless in expressing of the one you incidently express the aptness towards the other; so the doctrine of conjugation of men in society differeth from that of their conformity thereunto.[1]

This part of Duty is subdivided into two parts; the common duty of every man, as a man or member of a state; the other, the respective or special duty of every man, in his profession, vocation, and place. The first of these is extant and well laboured, as hath been said. The second likewise I may report rather dispersed than deficient; which manner of dispersed writing in this kind of argument I acknowledge to be best. For who can take upon him to write of the proper duty, virtue, challenge, and right of every several vocation, profession and place? For although sometimes a looker on may see more than a gamester, and there be a proverb more arrogant than sound, *That the vale best discovereth the hill;* yet there is small doubt but that men can write best and most really and materially in their own professions; and that the writing of speculative men of active matter for the most part doth seem to men of experience, as Phormio's argument of the wars seemed to Hannibal, to be but dreams and dotage. Only there is one vice which accompanieth them that write in their own professions, that they magnify them in excess. But generally it were to be wished (as that which would make learning indeed solid and fruitful) that active men would or could become writers.

[1] *i. e.* of the conformation of men to the business of society — (*quæ eos reddit ad hujusmodi societatis commoda conformes et bene affectos*).

In which kind I cannot but mention, *honoris causa*, your Majesty's excellent book touching the duty of a king: a work richly compounded of divinity, morality, and policy, with great aspersion of all other arts; and being in mine opinion one of the most sound and healthful writings that I have read; not distempered in the heat of invention, nor in the coldness of negligence; not sick of dizziness,[1] as those are who leese themselves in their order; nor of convulsions,[2] as those which cramp in matters impertinent; not savouring of perfumes and paintings, as those do who seek to please the reader more than nature[3] beareth; and chiefly well disposed in the spirits thereof, being agreeable to truth and apt for action; and far removed from that natural infirmity, whereunto I noted those that write in their own professions to be subject, which is, that they exalt it above measure. For your Majesty hath truly described, not a king of Assyria or Persia in their extern glory, but a Moses or a David, pastors of their people. Neither can I ever leese out of my remembrance what I heard your Majesty in the same sacred spirit of government deliver in a great cause of judicature, which was, *That Kings ruled by their laws as God did by the laws of nature, and ought as rarely to put in use their supreme prerogative as God doth his power of working miracles.* And yet notwithstanding, in your book

[1] *Dusinesse* in the original. *Businesse* in edd. 1629 and 1633. *Vertigine* in De Aug.

[2] The words "convulsion" and "cramp" seem to describe a forced and abrupt style; an idea not implied in the words of the translation, which may be retranslated thus: "not distracted in digressions, as those which wind about to take in matters impertinent" — (*ut illa quæ nihil ad rhombum sunt expatiatione aliqua flexuosa complectatur*).

[3] *i. e.* the nature of the argument.—(*qui lectorum potius delectationi quam argumenti naturæ inserviunt*).

of a free monarchy, you do well give men to understand, that you know the plenitude of the power and right of a King, as well as the circle of his office and duty. Thus have I presumed to allege this excellent writing of your Majesty, as a prime or eminent example of tractates concerning special and respective duties; wherein I should have said as much, if it had been written a thousand years since. Neither am I moved with certain courtly decencies, which esteem it flattery to praise in presence. No, it is flattery to praise in absence; that is, when either the virtue is absent, or the occasion is absent; and so the praise is not natural, but forced, either in truth or in time. But let Cicero be read in his oration *pro Marcello*, which is nothing but an excellent table of Cæsar's virtue, and made to his face; besides the example of many other excellent persons, wiser a great deal than such observers;[1] and we will never doubt, upon a full occasion, to give just praises to present or absent.

But to return: there belongeth further to the handling of this part[2] touching the duties of professions and vocations, a Relative or opposite, touching the frauds, cautels, impostures, and vices of every profession; which hath been likewise handled: but how? rather in a satire and cynically, than seriously and wisely: for men have rather sought by wit to deride and traduce much of that which is good in professions, than with judgment to discover and sever that which is corrupt. For, as Salomon saith, He that cometh to

[1] In the translation he merely adds the single example of Pliny the younger in his Panegyric on Trajan. When he wrote the *Advancement of Learning*, he appears to have been under the impression that Pliny's Panegyric was spoken after Trajan's death. See below, p. 344.

[2] So edd. 1629 and 1633. The original has *partie*.

seek after knowledge with a mind to scorn and censure, shall be sure to find matter for his humour, but no matter for his instruction: *Quærenti derisori scientiam ipsa se abscondit; sed studioso fit obviam.* But the managing of this argument with integrity and truth, which I note as deficient, seemeth to me to be one of the best fortifications for honesty and virtue that can be planted. For as the fable goeth of the Basilisk, that if he see you first you die for it, but if you see him first he dieth; so is it with deceits and evil arts; which if they be first espied they leese their life, but if they prevent they endanger. So that we are much beholden to Machiavel and others, that write what men do and not what they ought to do. For it is not possible to join serpentine wisdom with the columbine innocency, except men know exactly all the conditions of the serpent; his baseness and going upon his belly, his volubility and lubricity, his envy and sting, and the rest; that is, all forms and natures of evil. For without this, virtue lieth open and unfenced. Nay an honest man can do no good upon those that are wicked to reclaim them, without the help of the knowledge of evil. For men of corrupted minds presuppose that honesty groweth out of simplicity of manners, and believing of preachers, school-masters, and men's exterior language: so as, except you can make them perceive that you know the utmost reaches of their own corrupt opinions, they despise all morality. *Non recipit stultus verba prudentiæ, nisi ea dixeris quæ versantur in corde ejus:* [the fool will not listen to the words of the wise, unless you first tell him what is in his own heart].[1]

[1] In the translation this is set down as a *desideratum* under the title of *Satira Seria sive tractatus de interioribus rerum.*

Unto this part touching Respective Duty doth also appertain the duties between husband and wife, parent and child, master and servant: so likewise the laws of friendship and gratitude, the civil bond of companies, colleges, and politic bodies, of neighbourhood, and all other proportionate duties; not as they are parts of government and society, but as to the framing of the mind of particular persons.

The knowledge concerning good respecting Society doth handle it also not simply alone, but comparatively; whereunto belongeth the weighing of duties between person and person, case and case, particular and public: as we see in the proceeding[2] of Lucius Brutus against his own sons, which was so much extolled; yet what was said?

Infelix, utcunque ferent ea facta[2] minores;

[unhappy man! whatever judgment posterity shall pass upon that deed, &c.]. So the case was doubtful, and had opinion on both sides. Again, we see when M. Brutus and Cassius invited to a supper certain whose opinions they meant to feel, whether they were fit to be made their associates, and cast forth the question touching the killing of a tyrant being an usurper, they were divided in opinion; some holding that servitude was the extreme of evils, and others that tyranny was better than a civil war: and a number of the like cases there are of comparative duty. Amongst which that of all others is the most frequent, where the question is of a great deal of good to ensue of a small injustice. Which Jason of Thessalia determined against the truth: *Aliqua sunt injuste facienda, ut multa juste fieri possint:*

[1] *in animadversione illa severa et atroci.*— De Aug.

[2] *Fata* both in the *Advancement* and in the *De Augmentis*.

[that there may be justice in many things there must be injustice in some]. But the reply is good, *Authorem præsentis justitiæ habes, sponsorem futuræ non habes:* [the justice that is to be done now is in your power, but where is your security for that which is to be done hereafter?] Men must pursue things which are just in present, and leave the future to the divine Providence. So then we pass on from this general part touching the exemplar and description of good.

De Cultura Animi.

¶ [1] Now therefore that we have spoken of this fruit of life, it remaineth to speak of the husbandry that belongeth thereunto; without which part the former seemeth to be no better than a fair image or statua, which is beautiful to contemplate, but is without life and motion: whereunto Aristotle himself subscribeth in these words: *Necesse est scilicet de virtute dicere, et quid sit, et ex quibus gignatur. Inutile enim fere fuerit virtutem quidem nosse, acquirendæ autem ejus modos et vias ignorare. Non enim de virtute tantum, qua specie sit, quærendum est, sed et quomodo sui copiam faciat: utrumque enim volumus, et rem ipsam nosse, et ejus compotes fieri: hoc autem ex voto non succedet, nisi sciamus et ex quibus et quomodo:* [it is necessary to determine concerning Virtue not only what it is but whence it proceeds. For there would be no use in knowing Virtue without knowing the ways and means of acquiring it. For we have to consider not only what it is, but how it is to be had. For we want both to know virtue and to be virtuous; which we cannot be without knowing both the whence and the how]. In such full words and with such iteration doth he inculcate this part. So saith Cicero in great commendation of Cato the second,

[1] De Aug. vii. 3.

that he had applied himself to philosophy *non ita disputandi causa, sed ita vivendi:* [not that he might talk like a philosopher, but that he might live like one]. And although the neglect of our times, wherein few men do hold any consultations touching the reformation of their life, (as Seneca excellently saith, *De partibus vitæ quisque deliberat, de summâ nemo,*) [every man takes thought about the parts of his life, no man about the whole,] may make this part seem superfluous; yet I must conclude with that aphorism of Hippocrates, *Qui gravi morbo correpti dolores non sentiunt, iis mens ægrotat;* [they that are sick and yet feel no pain are sick in their minds;] they need medicine not only to assuage the disease but to awake the sense. And if it be said that the cure of men's minds belongeth to sacred Divinity, it is most true: but yet Moral Philosophy may be preferred unto her as a wise servant and humble handmaid. For as the Psalm saith, *that the eyes of the handmaid look perpetually towards the mistress*, and yet no doubt many things are left to the discretion of the handmaid to discern of the mistress' will; so ought Moral Philosophy to give a constant attention to the doctrines of Divinity, and yet so as it may yield of herself (within due limits) many sound and profitable directions.

This part therefore, because of the excellency thereof, I cannot but find exceeding strange that it is not reduced to written inquiry; the rather because it consisteth of much matter wherein both speech and action is often conversant, and such wherein the common talk of men (which is rare, but yet cometh sometimes to pass) is wiser than their books. It is reasonable therefore that we propound it in the more particularity, both

for the worthiness, and because we may acquit ourselves for reporting it deficient; which seemeth almost incredible, and is otherwise conceived and presupposed by those themselves that have written. We will therefore enumerate some heads or points thereof, that it may appear the better what it is, and whether it be extant.

First therefore, in this, as in all things which are practical, we ought to cast up our account, what is in our power and what not; for the one may be dealt with by way of alteration, but the other by way of application only. The husbandman cannot command neither the nature of the earth nor the seasons of the weather; no more can the physician the constitution of the patient nor the variety of accidents. So in the culture and cure of the mind of man, two things are without our command; points of nature, and points of fortune; for to the basis of the one, and the conditions of the other, our work is limited and tied. In these things therefore it is left unto us to proceed by application:

Vincenda est omnis fortuna ferendo:

[all fortune may be overcome by endurance or suffering;] and so likewise,

Vincenda est omnis natura ferendo:

[all nature may be overcome by suffering]. But when that we speak of suffering, we do not speak of a dull and neglected suffering, but of a wise and industrious suffering, which draweth and contriveth use and advantage out of that which seemeth adverse and contrary; which is that property which we call Accommodating or Applying.[1] Now the wisdom of application resteth

[1] These observations are omitted in the translation, and the whole pas-

principally in the exact and distinct knowledge of the precedent state or disposition unto which we do apply: for we cannot fit a garment, except we first take measure of the body.

So then the first article of this knowledge is to set down sound and true distributions and descriptions of the several characters and tempers of men's natures and dispositions, specially having regard to those differences which are most radical in being the fountains and causes of the rest, or most frequent in concurrence or commixture;[1] wherein it is not the handling of a few of them in passage, the better to describe the mediocrities of virtues, that can satisfy this intention; for if it deserve to be considered, *that there are minds which are proportioned to great matters, and others to small*, (which Aristotle handleth or ought to have handled by the name of Magnanimity,) doth it not deserve as well to be considered, *that there are minds proportioned to intend many matters, and others to few?*[2] so that some can divide themselves, others can perchance do exactly well, but it must be but in few things at once; and so there cometh to be a *narrowness of mind*, as well as a *pusillanimity*. And again, *that some minds are proportioned to that which may be dispatched at once, or within a short return of time; others to that which begins afar off, and is to be won with length of pursuit;*

Jam tum tenditque fovetque:

[he begins to attend and nurse his project while it is yet

sage is rewritten, though rather with a view of expressing the meaning more clearly than of altering it.

[1] It is remarkable that the observations which follow, down to "benignity or malignity," are entirely omitted in the translation.

[2] So all the editions: a second *intend* having probably dropped out accidentally.

in the cradle;] so that there may be fitly said to be a *longanimity;* which is commonly also ascribed to God as a *magnanimity.* So further deserved it to be considered by Aristotle, *that there is a disposition in conversation (supposing it in things which do in no sort touch or concern a man's self) to soothe and please, and a disposition contrary to contradict and cross;* and deserveth it not much better to be considered, *that there is a disposition, not in conversation or talk but in matter of more serious nature, (and supposing it still in things merely indifferent,) to take pleasure in the good of another, and a disposition contrariwise to take distaste at the good of another;* which is that property[1] which we call good-nature or ill-nature, benignity or malignity? And therefore I cannot sufficiently marvel that this part of knowledge touching the several characters of natures and dispositions should be omitted both in morality and policy, considering it is of so great ministry and suppeditation to them both. A man shall find in the traditions of astrology some pretty and apt divisions of men's natures, according to the predominances of the planets; *lovers of quiet, lovers of action, lovers of victory, lovers of honour, lovers of pleasure, lovers of arts, lovers of change,* and so forth. A man shall find in the wisest sort of these Relations which the Italians make touching Conclaves, the natures of the several Cardinals handsomely and lively painted forth. A man shall meet with in every day's conference the denominations of *sensitive, dry, formal, real, humorous, certain, huomo di prima impressione, huomo di ultima impressione,* and the like;[2] and yet nevertheless this kind of observa-

[1] *properly* both in the original, and in edd. 1629 and 1633.

[2] This sentence is omitted in the translation; perhaps from the difficulty

tions wandereth in words, but is[1] not fixed in inquiry. For the distinctions are found (many of them), but we conclude no precepts upon them; wherein our fault is the greater, because both history, poesy, and daily experience are as goodly fields where these observations grow; whereof we make a few posies to hold in our hands, but no man bringeth them to the confectionary, that receits might be made of them for use of life.[2]

Of much like kind are those impressions of nature, which are imposed upon the mind *by the sex*, *by the age*, *by the region*, *by health and sickness*, *by beauty and deformity*, and the like, which are inherent and not extern; and again those which are caused by extern fortune; as *sovereignty*, *nobility*, *obscure birth*, *riches*, *want*, *magistracy*, *privateness*, *prosperity*, *adversity*, *con-*

of finding equivalent terms in Latin; but the substance of the observation is contained in the remark (transplanted from a former paragraph) that in this matter the common talk of men is wiser than their books.

[1] *as* both in the original and in edd. 1629 and 1633.

[2] In place of this we have in the translation a passage of considerable length recommending the wiser sort of historians as supplying the best material for this kind of treatise; not only in the formal character which they commonly give of any principal personage on recording his death, but still more in the occasional observations interwoven into the body of the narrative, when in relating any of his actions they introduce some remark upon his nature and disposition. Bacon instances the character of Africanus and the elder Cato as drawn by Livy; of Tiberius, Claudius, and Nero, in Tacitus; of Septimius Severus, in Herodian; of Louis XI. in Philip de Comines; of Ferdinand, Maximilian, Leo, and Clement, in Guicciardini. (His own Henry VII. would have furnished another instance, as good as any.) Of these he would have a full and careful analysis made, exhibiting not the entire character, but the several features and individual peculiarities of mind and disposition which make it up, (*imaginum ipsarum lineæ et ductus magis simplices*,) with their connexion and bearing one upon another: — a kind of moral and mental anatomy, as a basis for a system of moral and mental medicine. He prefers the historians to the poets for this purpose, because in the poets the characters are commonly drawn with exaggeration.

stant fortune, variable fortune, rising per saltum, per gradus, and the like. And therefore we see that Plautus maketh it a wonder to see an old man beneficent; *benignitas hujus ut adolescentuli est:* [he is as generous as if he were a young man:] St. Paul concludeth that severity of discipline was to be used to the Cretans, *Increpa eos durè*, [rebuke them sharply,] upon the disposition of their country; *Cretenses semper mendaces, malæ bestiæ, ventres pigri:* [the Cretans are alway liars, evil beasts, slow bellies:] Sallust noteth that it is usual with Kings to desire contradictories; *Sed plerumque regiæ voluntates, ut vehementes sunt, sic mobiles, sæpeque ipsæ sibi adversæ:* [royal desires, as they are violent, so are they changeable, and often incompatible with each other:] Tacitus observeth how rarely raising of the fortune mendeth the disposition; *Solus Vespasianus mutatus in melius:* [Vespasian the only one of the emperors that changed for the better:] Pindarus maketh an observation that great and sudden fortune for the most part defeateth men;[1] *Qui magnam felicitatem concoquere non possunt:* [that cannot digest great felicity:] so the Psalm sheweth it is more easy to keep a measure in the enjoying[2] of fortune than in the increase of fortune; *Divitiæ si affluant, nolite cor apponere:* [if riches increase set not your heart upon them]. These observations and the like I deny not but are touched a little by Aristotle as in passage in his Rhetorics, and are handled in some scattered discourses; but they were never incorporate into Moral Philosophy, to which they do essentially appertain; as the knowledge of the diversity of grounds and moulds

[1] *animos plerumque enervare et solvere.*— De Aug.
[2] *statu.*— De Aug.

doth to agriculture, and the knowledge of the diversity of complexions and constitutions doth to the physician; except we mean to follow the indiscretion of empirics, which minister the same medicines to all patients.

Another article of this knowledge is the inquiry touching the affections; for as in medicining of the body it is in order first to know the divers complexions and constitutions, secondly the diseases, and lastly the cures; so in medicining of the mind, after knowledge of the divers characters of men's natures, it followeth in order to know the diseases and infirmities of the mind, which are no other than the perturbations and distempers of the affections. For as the ancient politiques[1] in popular estates were wont to compare the people to the sea and the orators to the winds, because as the sea would of itself be calm and quiet if the winds did not move and trouble it, so the people would be peaceable and tractable if the seditious orators did not set them in working and agitation; so it may be fitly said, that the mind in the nature thereof would be temperate and stayed, if the affections, as winds, did not put it into tumult and perturbation. And here again I find strange, as before, that Aristotle should have written divers volumes of Ethics, and never handled the affections, which is the principal subject thereof; and yet in his Rhetorics, where they are considered but collaterally and in a second degree (*as they may be moved by speech*), he findeth place for them, and handleth them well for the quantity; but where their true place is, he pretermitteth them. For it is not his disputations about pleasure and pain that can satisfy this inquiry, no more than he that should generally

[1] So edd. 1629 and 1633. The original has *in politiques*.

handle the nature of light can be said to handle the nature of colours; for pleasure and pain are to the particular affections as light is to particular colours. Better travails I suppose had the Stoics taken in this argument, as far as I can gather by that which we have at second hand: but yet it is like it was after their manner, rather in subtilty of definitions (which in a subject of this nature are but curiosities) than in active and ample descriptions and observations. So likewise I find some particular writings of an elegant nature touching some of the affections; as of *anger*, of *comfort upon adverse accidents*,[1] of *tenderness of countenance*,[2] and other. But the poets and writers of histories are the best doctors of this knowledge; where we may find painted forth with great life, how affections are kindled and incited; and how pacified and refrained; and how again contained from act and further degree; how they disclose themselves, how they work, how they vary, how they gather and fortify,[3] how they are inwrapped one within another, and how they do fight and encounter one with another, and other the like particularities: amongst the which this last is of special use in moral and civil matters; how (I say) to set affection against affection, and to master one by another; even as we use to hunt beast with beast and fly bird with bird, which otherwise percase we could not so easily recover: upon which foundation is erected that excellent use of *præmium* and *pœna*, whereby civil states consist; employing the predominant affections

[1] This is omitted in the translation.

[2] This I suppose is what the French call *mauvaise honte*. The translation is *De inutili verecundia*, which is the Latin rendering of περὶ ἀνοωπίας, the title of a tract by Plutarch.

[3] This is omitted in the translation.

of *fear* and *hope*, for the suppressing and bridling the rest. For as in the government of states it is sometimes necessary to bridle one faction with another, so it is in the government within.

Now come we to those points which are within our own command, and have force and operation upon the mind to affect the will and appetite and to alter manners: wherein they ought to have handled *custom*, *exercise*, *habit*, *education*, *example*, *imitation*, *emulation*, *company*, *friends*, *praise*, *reproof*, *exhortation*, *fame*, *laws*, *books*, *studies*: these as[1] they have determinate use in moralities, from these the mind suffereth, and of these are such receipts and regiments compounded and described, as may seem to recover or preserve the health and good estate of the mind, as far as pertaineth to human medicine: of which number we will visit[2] upon some one or two as an example of the rest, because it were too long to prosecute all; and therefore we do resume Custom and Habit to speak of.

The opinion of Aristotle seemeth to me a negligent opinion, that of those things which consist by nature nothing can be changed by custom; using for example, that if a stone be thrown ten thousand times up, it will not learn to ascend; and that by often seeing or hearing, we do not learn to see or hear the better. For though this principle be true in things wherein nature is *peremptory*, (the reason whereof we cannot now stand to discuss,) yet it is otherwise in things wherein

[1] So in all the editions. Perhaps it should be *are*. (*Hæc enim sunt illa quæ regnant in moralibus.*) If *as* be right, we should probably read, *far from these* &c.

[2] So the original. Edd. 1629 and 1633 have *insist:* perhaps rightly. The translation has *unum aut alterum deligemus in quibus paullulum immorabimur.*

nature admitteth *a latitude*. For he might see that a strait glove will come more easily on with use, and that a wand will by use bend otherwise than it grew, and that by use of the voice we speak louder and stronger, and that by use of enduring heat or cold we endure it the better, and the like: which later sort have a nearer resemblance unto that subject of manners he handleth than those instances which he allegeth. But allowing his conclusion, *that virtues and vices consist in habit*, he ought so much the more to have taught the manner of superinducing that habit: for there be many precepts of the wise ordering the exercises of the mind, as there is of ordering the exercises of the body; whereof we will recite a few.

The first shall be, that we beware we take not at the first either too *high* a strain or too *weak*: for if too high, in a diffident[1] nature you discourage; in a confident nature you breed an opinion of facility, and so a sloth; and in all natures you breed a further expectation than can hold out, and so an insatisfaction[2] on the end: if too weak of the other side, you may not look to perform and overcome any great task.

Another precept is, to practise all things chiefly at two several times, the one when the mind is best disposed, the other when it is worst disposed; that by the one you may gain a great step, by the other you may work out the knots and stonds of the mind, and make the middle times the more easy[3] and pleasant.

[1] So edd. 1629 and 1633. The original has *different*.

[2] And thence a discouragement — (*id quod animum semper dejicit et confundit*).

[3] So edd. 1629 and 1633. The original has *easily*. Possibly Bacon wrote *run more easily*. The translation has *facile et placide delabentur*. This part of the original edition is carelessly printed.

Another precept is, that which Aristotle mentioneth by the way, which is to bear ever towards the contrary extreme of that whereunto we are by nature inclined: like unto the rowing against the stream, or making a wand straight by bending[1] him contrary to his natural crookedness.

Another precept is, that the mind is brought to any thing better, and with more sweetness and happiness, if that whereunto you pretend be not first in the intention, but *tanquam aliud agendo*, because of the natural hatred of the mind against necessity and constraint. Many other axioms there are touching the managing of *Exercise* and *Custom;* which being so conducted, doth prove indeed another nature; but being governed by chance, doth commonly prove but an ape of nature, and bringeth forth that which is lame and counterfeit.

So if we should handle *books* and *studies*, and what influence and operation they have upon manners, are there not divers precepts of great caution and direction appertaining thereunto? Did not one of the fathers in great indignation call Poesy *vinum dæmonum*, because it increaseth temptations, perturbations, and vain opinions? Is not the opinion of Aristotle worthy to be regarded, wherein he saith that young men are no fit auditors of moral philosophy,[2] because they are not settled from the boiling heat of their affections, nor

[1] So ed. 1633. The original has *bynding*, and ed. 1629 *binding*.

[2] Not of *moral* but of *political* philosophy. See Mr. Ellis's note, Vol. III. p. 44. That in the passage there quoted from Troilus and Cressida the observation and the error were both derived directly from the *Advancement of Learning* admits of little doubt. But how came Virgilio Malvezzi, in his *Discorsi sopra Cornelio Tacito* published in 1622, to make the same mistake? "E non è discordante da questa mia opinione Aristotele, il qual dice, che i giovani non sono buoni ascultatori delle *morali*." I quote from ed. 1635. The passage occurs in the address to the reader, p. 3.

attempered with time and experience? And doth it not hereof come, that those excellent books and discourses of the ancient writers (whereby they have persuaded unto virtue most effectually, by representing her in state and majesty, and popular opinions against virtue in their parasites' coats, fit to be scorned and derided,) are of so little effect towards honesty of life, because they are not read and revolved by men in their mature and settled years, but confined almost to boys and beginners? But is it not true also, that much less young men are fit auditors of matters of policy, till they have been throughly seasoned in religion and morality; lest their judgments be corrupted, and made apt to think that there are no true differences of things, but according to utility and fortune; as the verse describes it, *Prosperum et felix scelus virtus vocatur;* [a crime that is successful is called a virtue;] and again, *Ille crucem pretium sceleris tulit, hic diadema;* [the same crime is rewarded in one man with a gibbet and in another with a crown;] which the poets do speak satirically, and in indignation on virtue's behalf; but books of policy do speak it seriously and positively; for so it pleaseth Machiavel to say, *that if Cæsar had been overthrown he would have been more odious than ever was Catiline;* as if there had been no difference but in fortune, between a very fury of lust and blood, and the most excellent spirit (his ambition reserved) of the world? Again, is there not a caution likewise to be given of the doctrines of moralities themselves (some kinds of them,) lest they make men too precise, arrogant, incompatible; as Cicero saith of Cato, *In Marco Catone hæc bona quæ videmus divina et egregia, ipsius scitote esse propria; quæ nonnunquam requirimus, ea sunt omnia non a naturâ,*

sed a magistro: [his excellencies were his own, his defects came from the school-master]? Many other axioms and advices there are touching those proprieties and effects which studies do infuse and instil into manners. And so likewise is there touching the use of all those other points, of company, fame, laws, and the rest, which we recited in the beginning in the doctrine of morality.

But there is a kind of Culture of the Mind that seemeth yet more accurate and elaborate than the rest, and is built upon this ground; that the minds of all men are at some times in a state more perfect, and at other times in a state more depraved. The purpose therefore of this practice[1] is to fix and cherish the good hours of the mind, and to obliterate and take forth the evil. The fixing of the good hath been practised by two means; vows or constant resolutions; and observances or exercises; which are not to be regarded so much in themselves, as because they keep the mind in continual obedience. The obliteration of the evil hath been practised by two means; some kind of redemption or expiation of that which is past; and an inception or account *de novo* for the time to come. But this part seemeth sacred and religious, and justly; for all good Moral Philosophy (as was said) is but an handmaid to religion.

Wherefore we will conclude with that last point which is of all other means the most compendious and summary, and again the most noble and effectual, to the reducing of the mind unto virtue and good estate; which is the electing and propounding unto a man's self good and virtuous ends of his life, such as may be

[1] *i. e.* method of culture (*hujus culturæ intentio et institutum*).

in a reasonable sort within his compass to attain. For if these two things be supposed, that a man set before him honest and good ends, and again that he be resolute, constant, and true unto them, it will follow that he shall mould himself into all virtue at once. And this is indeed like the work of nature; whereas the other course is like the work of the hand. For as when a carver makes an image, he shapes only that part whereupon he worketh; as if he be upon the face, that part which shall be the body is but a rude stone still, till such times as he comes to it; but contrariwise when nature makes a flower or living creature, she formeth rudiments of all the parts at one time; so in obtaining virtue by *habit*, while a man practiseth temperance, he doth not profit much to fortitude, nor the like; but when he dedicateth and applieth himself to *good ends*, look what virtue soever the pursuit and passage towards those ends doth commend unto him, he is invested of a precedent disposition to conform himself thereunto; which state of mind Aristotle doth excellently express himself, that it ought not to be called *virtuous*, but *divine:* his words are these: *Immanitati autem consentaneum est opponere eam, quæ supra humanitatem est, heroicam sive divinam virtutem:* and a little after, *Nam ut feræ neque vitium neque virtus est, sic neque Dei: sed hic quidem status altius quiddam virtute est, ille aliud quiddam a vitio:* [that which answers to the brutal degree of vice is the heroical or divine degree of virtue. . . . For as neither virtue nor vice can be predicated of a brute, so neither can it of a God: the divine condition being something higher than virtue, the brutal something different from vice]. And therefore we may see what celsitude of honour

Plinius Secundus attributeth to Trajan in his funeral oration,[1] where he said, *that men needed to make no other prayers to the gods, but that they would continue as good lords to them as Trajan had been;* as if he had not been only an imitation of divine nature, but a pattern of it. But these be heathen and profane passages, having but a shadow of that divine state of mind which religion and the holy faith doth conduct men unto, by imprinting upon their souls Charity, which is excellently called the bond of Perfection, because it comprehendeth and fasteneth all virtues together. And as[2] it is elegantly said by Menander of vain love, which is but a false imitation of divine love, *Amor melior sophista lævo ad humanam vitam*, that love teacheth a man to carry himself better than the sophist or preceptor, which he calleth *left-handed*, because with all his rules and preceptions he cannot form a man so *dexterously*, nor with that facility to prize himself and govern himself, as love can do; so certainly if a man's mind be truly inflamed with charity, it doth work him suddenly into greater perfection than all the doctrine of morality can do, which is but a sophist in comparison of the other. Nay further, as Xenophon observed truly that all other affections, though they raise the mind, yet they do it by distorting and uncomeliness of ecstasies or excesses; but only love doth exalt the mind, and nevertheless at the same instant doth settle and compose it; so in all other excellencies, though they advance nature, yet they are subject to excess; only charity admitteth no excess: for so we see, aspir-

[1] The words "funeral oration" are omitted in the translation. It was not a funeral oration, but a Panegyric spoken in Trajan's presence. See above, p. 326.

[2] So edd. 1629 and 1633. The original omits *as*.

ing to be like God in power, the angels transgressed and fell; *Ascendam, et ero similis Altissimo;* [I will ascend and be like unto the Highest:] by aspiring to be like God in knowledge, man transgressed and fell; *Eritis sicut Dii, scientes bonum et malum;* [ye shall be as Gods, knowing good and evil;] but by aspiring to a similitude of God in goodness or love, neither man nor angel ever transgressed or shall transgress. For unto that imitation we are called: *Diligite inimicos vestros, benefacite eis qui oderunt vos, et orate pro persequentibus et calumniantibus vos, ut sitis filii Patris vestri qui in cœlis est, qui solem suum oriri facit super bonos et malos, et pluit super justos et injustos;* [love your enemies, do good to them that hate you, and pray for them which despitefully use you and persecute you; that ye may be the children of your Father which is in Heaven, who maketh his sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust]. So in the first platform of the divine nature itself, the heathen religion speaketh thus, *Optimus Maximus*, [Best and Greatest:] and the sacred Scriptures thus, *Misericordia ejus super omnia opera ejus*, [his mercy is over all his works].

Wherefore I do conclude this part of moral knowledge, concerning the Culture and Regiment of the Mind; wherein if any man, considering the parts thereof which I have enumerated, do judge that my labour is but to collect into an Art or Science that which hath been pretermitted by others as matter of common sense and experience, he judgeth well. But as Philocrates sported with Demosthenes, *You may not marvel (Athenians,) that Demosthenes and I do differ, for he drinketh water, and I drink wine;* and like

as we read of an ancient parable of *the two gates of sleep*,

> Sunt geminæ somni portæ: quarum altera fertur
> Cornea, qua veris facilis datur exitus umbris:
> Altera candenti perfecta nitens elephanto,
> Sed falsa ad cœlum mittunt insomnia manes:
>
> [Two gates there are of sleep; of horn the one,
> By which the true shades pass; of ivory
> Burnished and white the other, but through it
> Into the upper world false dreams are sent:]

so if we put on sobriety and attention, we shall find it a sure maxim in knowledge, that the more pleasant liquor (*of wine*) is the more vaporous, and the braver gate (*of ivory*) sendeth forth the falser dreams.[1]

But we have now concluded *that general part of Human Philosophy, which contemplateth man segregate, and as he consisteth of body and spirit.* Wherein we may further note, that there seemeth to be a relation or conformity between the good of the mind and the good of the body. For as we divided the good of the body into *health*, *beauty*, *strength*, and *pleasure*: so the good of the mind, inquired in rational and moral knowledges,[2] tendeth to this, to make the mind *sound*, and without perturbation; *beautiful*, and graced with decency; and *strong* and *agile* for all duties of life.

[1] The allusion to Philocrates and Demosthenes and to the difference between wine and water is omitted in the translation; probably because Bacon had since used the same illustration in an opposite sense (see *Nov. Org.* i. 123.), taking the wine to represent his own philosophy, with its variety of material and elaborate processes of manufacture, and the water to represent the popular philosophy of his time which was content with what came; and the present passage reads the clearer and better for the omission. After "he judgeth well," yet let him remember (he says) that the object I am in pursuit of is not beauty and fair appearance, but utility and truth; and let him a little call to mind the meaning of that ancient parable, *Sunt geminæ somni portæ*, &c. Great no doubt is the magnificence of the ivory gate, but the true dreams pass by the gate of horn.

[2] *i. e.* considered with reference to reason and morals — (*si juxta moralis doctrinæ scita illud contemplemur*).

These three, as in the body so in the mind, seldom meet, and commonly sever. For it is easy to observe that many have strength of wit and courage, but have neither health from perturbations, nor any beauty or decency in their doings: some again have an elegancy and fineness of carriage, which have neither soundness of honesty, nor substance of sufficiency: and some again have honest and reformed minds, that can neither become themselves nor manage business: and sometimes two of them meet, and rarely all three. As for pleasure, we have likewise determined that the mind ought not to be reduced to stupid, but to retain pleasure; confined rather in the subject of it, than in the strength and vigour of it.[1]

¶ [2] CIVIL Knowledge is conversant about a subject which of all others is most immersed in matter, and hardliest reduced to axiom. Nevertheless, as Cato the censor said, *That the Romans were like sheep, for that a man might better drive a flock of them, than one of them; for in a flock, if you could get but some few go right, the rest would follow:* so in that respect moral philosophy is more difficile than policy. Again, moral philosophy propoundeth to itself the framing of internal goodness; but civil knowledge requireth only an external goodness; for that as to society sufficeth; and therefore it cometh oft to pass that there be evil times in good gov-

[1] For in a mind properly disposed, the act and exercise of virtue ought to be accompanied with a sense of pleasure; as is more clearly expressed in the translation. There are some, he says, who have both health, beauty, and strength of mind; and so perform their duties well; but, from a kind of Stoical severity and insensibility, take no pleasure in them (*sed tamen Stoica quadam tristitia et stupiditate præditi, virtutis quidem actiones exercent, gaudiis non perfruuntur*).

[2] De Aug. viii. 1.

ernments: for so we find in the holy story, when the kings were good, yet it is added, *Sed adhuc populus non direxerat*[1] *cor suum ad Dominum Deum patrum suorum;* [but as yet the people had not turned their hearts towards the Lord God of their fathers]. Again, States, as great engines, move slowly, and are not so soon put out of frame: for as in Egypt the seven good years sustained the seven bad, so governments for a time well grounded do bear out errors following: but the resolution of particular persons is more suddenly subverted. These respects do somewhat qualify the extreme difficulty of civil knowledge.

This knowledge hath three parts, according to the three summary actions of society; which are Conversation, Negotiation, and Government. For man seeketh in society comfort, use, and protection: and they be three wisdoms of divers natures, which do often sever; wisdom of the behaviour, wisdom of business, and wisdom of state.

The wisdom of Conversation ought not to be over much affected, but much less despised; for it hath not only an honour in itself, but an influence also into business and government.[2] The poet saith,

Nec vultu destrue verba tuo:

a man may destroy the force of his words with his countenance: so may he of his deeds, saith Cicero; recommending to his brother affability and easy access; *Nil interest habere ostium apertum, vultum clausum;* it is nothing won to admit men with an open door, and to

[1] *dixerat* in the original and also in edd. 1629 and 1633. *direxerat.* — De Aug.

[2] In the translation he compares the value of Conversation in business to that of action in oratory.

receive them with a shut and reserved countenance. So we see Atticus, before the first interview between Cæsar and Cicero, the war depending, did seriously advise Cicero touching the composing and ordering of his countenance and gesture. And if the government of the countenance be of such effect, much more is that of the speech, and other carriage appertaining to conversation; the true model whereof seemeth to me well expressed by Livy, though not meant for this purpose; *Ne aut arrogans videar, aut obnoxius; quorum alterum est alienæ libertatis obliti, alterum suæ:* the sum of behaviour is to retain a man's own dignity, without intruding upon the liberty of others. On the other side, if behaviour and outward carriage be intended too much, first it may pass into affection,[1] and then *quid deformius quam scenam in vitam transferre*, [what more unseemly than to be always playing a part;] to act a man's life? But although it proceed not to that extreme, yet it consumeth time, and employeth the mind too much. And therefore as we use to advise young students from company keeping, by saying, *Amici fures temporis*, [friends are thieves of time;] so certainly the intending of the discretion of behaviour is a great thief of meditation. Again, such as are accomplished in that honor[2] of urbanity please themselves in name,[3]

[1] So the original. Edd. 1629 and 1633 have *affectation;* which is the more modern form of the word. But the other was I think the more common when the *Advancement* was written.

[2] *howr* in original: *hour* in ed. 1633. Ed. 1629 has *forme;* which is the reading of all the modern editions. But *fourme* could not easily be mistaken for *howr*, whereas *honor* carelessly written would be hardly distinguishable from it. The translation also, though the expression is altered, preserves the idea of honour. *Qui primas adeo in urbanitate obtinent et ad hanc rem unam quasi nati videntur.*

[3] So both the original and ed. 1633. Ed. 1629 has "in *it;*" which has

and seldom aspire to higher virtue; whereas those that have defect in it do seek comeliness by reputation: for where reputation is, almost every thing becometh; but where that is not, it must be supplied by *puntos* and compliments. Again, there is no greater impediment of action than an over-curious observance of decency, and the guide of decency, which is time and season. For as Salomon sayeth, *Qui respicit ad ventos, non seminat; et qui respicit ad nubes, non metet;* [he that looketh to the winds doth not sow, and he that regardeth the clouds shall not reap:] a man must make his opportunity, as oft as find it. To conclude; Behaviour seemeth to me as a garment of the mind, and to have the conditions of a garment. For it ought to be made in fashion; it ought not to be too curious; it ought to be shaped so as to set forth any good making of the mind, and hide any deformity; and above all, it ought not to be too strait or restrained for exercise or motion. But this part of civil knowledge hath been elegantly handled, and therefore I cannot report it for deficient.

¶ [1] The wisdom touching Negotiation or Business hath not been hitherto collected into writing, to the great derogation of learning and the professors of learning. For from this root springeth chiefly that note or opinion, which by us is expressed in adage to this effect, that there is no great concurrence between learning and wisdom. For of the three wisdoms which we have set down to pertain to civil life, for wisdom of Behaviour, it is by learned men for the most part

been followed by modern editors. The translation has *ut sibi ipsis in illa sola complaceant.* If *name* be the right word (which I doubt) the meaning must be that they are satisfied with the good report which it procures them. Perhaps it should be "please themselves in the same."

[1] De Aug. viii. 2.

despised, as an inferior to virtue and an enemy to meditation; for wisdom of Government, they acquit themselves well when they are called to it, but that happeneth to few; but for the wisdom of Business, wherein man's life is most conversant, there be no books of it, except some few scattered advertisements, that have no proportion to the magnitude of this subject. For if books were written of this as the other, I doubt not but learned men with mean experience would far excel men of long experience without learning, and outshoot them in their own bow.

Neither needeth it at all to be doubted that this knowledge should be so variable as it falleth not under precept; for it is much less infinite than science of Government, which we see is laboured and in some part reduced. Of this wisdom it seemeth some of the ancient Romans in the saddest and wisest times were professors; for Cicero reporteth that it was then [1] in use for senators that had name and opinion for general wise men, as Coruncanius, Curius, Lælius, and many others, to walk at certain hours in the Place, and to give audience to those that would use their advice; and that the particular citizens would resort unto them, and consult with them of the marriage of a daughter, or of the employing of a son, or of a purchase or bargain, or of an accusation, and every other occasion incident to man's life; so as there is a wisdom of counsel and advice even in private causes, arising out of an universal insight into the affairs of the world; which is used indeed upon particular cases [2] propounded, but is gathered

[1] *i. e.* in the times of which he writes, — a little before his own. (*paulo ante sua secula.*)

[2] So the original. Edd. 1629 and 1633 have *causes.*

by general observation of causes of like nature. For so we see in the book which Q. Cicero [1] writeth to his brother *De petitione consulatus* (being the only book of business that I know written by the ancients), although it concerned a particular action then on foot, yet the substance thereof consisteth of many wise and politic axioms, which contain not a temporary but a perpetual direction in the case of popular elections. But chiefly we may see in those aphorisms which have place amongst divine writings, composed by Salomon the king, of whom the Scriptures testify that his heart was as the sands of the sea, encompassing the world and all worldly matters; we see, I say, not a few profound and excellent cautions, precepts, positions, extending to much variety of occasions; whereupon we will stay awhile, offering to consideration some number of examples.[2]

Sed et cunctis sermonibus qui dicuntur ne accommodes aurem tuam, ne forte audias servum tuum maledicentem tibi. [Hearken not unto all words that are spoken, lest thou hear thy servant curse thee.] Here is concluded the provident stay of inquiry of that which we would be loth to find: [3] as it was judged great wisdom in Pompeius Magnus that he burned Sertorius' papers unperused.

Vir sapiens si cum stulto contenderit, sive irascatur sive rideat, non inveniet requiem. [A wise man if he

[1] So edd. 1629 and 1633 and *De Aug.* The original omits *Q.*

[2] This is what he calls in the translation *Doctrina de Negotiis Sparsis.* The example which follows is greatly enlarged: the number of proverbs commented upon being increased by a third, and the comments being much fuller.

[3] Compare L'Estrange's *Fables and storyes moralized*, vol. ii. p. 6. ed. 1708.

contend with a fool, whether he be angry or whether he laugh, shall find no rest.] Here is described the great disadvantage which a wise man hath in undertaking a lighter person than himself; which is such an engagement as whether a man turn the matter to jest, or turn it to heat, or howsoever he change copy, he can no ways quit himself well of it.

Qui delicatè a pueritia nutrit servum suum, postea sentiet eum contumacem. [He that delicately bringeth up his servant from a child shall have him become froward at the length.] Here is signified, that if a man begin too high a pitch in his favours, it doth commonly end in unkindness and unthankfulness.

Vidisti virum velocem in opere suo? Coram regibus stabit, nec erit inter ignobiles. [Seest thou a man that is quick in his business? He shall stand before kings; his place shall not be among mean men.] Here is observed that, of all virtues for rising to honour, quickness of dispatch is the best; for superiors many times love not to have those they employ too deep or too sufficient, but ready and diligent.

Vidi cunctos viventes qui ambulant sub sole, cum adolescente secundo qui consurgit pro eo. [I beheld all the living which walk under the sun, with the second youth that shall stand in his place.] Here is expressed that which was noted by Sylla first, and after him by Tiberius: *Plures adorant solem orientem quam occidentem vel meridianum,*[1] [there be more that worship the rising sun than the sun setting or at mid-day].

Si spiritus potestatem habentis ascenderit super te, lo

[1] The words *vel meridianum* are omitted in the translation; and it is difficult to understand how they got in; for they are not to be found in either of the passages alluded to, and they seem to carry the observation beyond the truth.

cum tuum ne dimiseris; quia curatio faciet cessare peccata maxima. [If the spirit of the ruler rise up against thee, leave not thy place; for observance will remove great offences.] Here caution is given that upon displeasure, retiring is of all courses the unfittest; for a man leaveth things at worst, and depriveth himself of means to make them better.

Erat civitas parva, et pauci in ea viri: venit contra eam rex magnus, et vadavit eam, intruxitque munitiones per gyrum, et perfecta est obsidio: inventusque est in ea vir pauper et sapiens, et liberavit eam per sapientiam suam; et nullus deinceps recordatus est hominis illius pauperis. [There was a little city and few men within it; and there came a great king against it and besieged it and raised great bulwarks round about it: and there was found in it a poor wise man, and he by his wisdom delivered the city; yet no man remembered that same poor man.] Here the corruption[1] of states is set forth, that esteem not virtue or merit longer than they have use of it.

Mollis responsio frangit iram. [A soft answer defeateth wrath.] Here is noted that silence or rough answer exasperateth; but an answer present and temperate pacifieth.

Iter pigrorum quasi sepes spinarum. [The way of the slothful is as an hedge of thorns.] Here is lively represented how laborious sloth proveth in the end; for when things are deferred till the last instant and nothing prepared beforehand, every step findeth a brier or an impediment, which catcheth or stoppeth.

Melior est finis orationis quam principium. [Better is the end of a speech than the beginning thereof.]

[1] So edd. 1629 and 1633. The original has *corruptions*.

Here is taxed the vanity of formal speakers, that study more about prefaces and inducements than upon the conclusions and issues of speech.

Qui cognoscit in judicio faciem, non bene facit; iste et pro buccella panis deseret veritatem. [He that respecteth persons in judgment doth not well; even for a piece of bread will that man depart from the truth.] Here is noted, that a judge were better be a briber than a respecter of persons; for a corrupt judge offendeth not so lightly[1] as a facile.

Vir pauper calumnians pauperes similis est imbri vehementi, in quo paratur fames. [A poor man that beareth witness against the poor is like a sweeping rain which leaveth no food.] Here is expressed the extremity of necessitous extortions, figured in the ancient fable of the full and hungry horse-leech.

Fons turbatus pede, et vena corrupta, est justus cadens coram impio. [A righteous man falling down before the wicked is as a troubled fountain and a corrupt spring.] Here is noted, that one judicial and exemplar iniquity in the face of the world, doth trouble the fountains of justice more than many particular injuries passed over by connivance.

[2] *Qui subtrahit aliquid a patre et a matre, et dicit hoc non esse peccatum, particeps est homicidii.* [Whoso robbeth his father and his mother, and saith it is no transgression, is the companion of a destroyer.] Here is noted, that whereas men in wronging their best

[1] So the original. Edd. 1629 and 1633 have *highly:* a conjectural emendation probably, by some critic who did not know that *lightly* meant *easily, readily, upon slight occasion;* or did not observe that the point of the observation rests entirely upon this word. The corrupt judge does not offend less highly than the facile; but less frequently.

[2] This proverb is omitted in the translation.

friends use to extenuate their fault, as if they might presume or be bold upon them, it doth contrariwise indeed aggravate their fault, and turneth it from injury to impiety.

Noli esse amicus homini iracundo, nec ambulato cum homine furioso. [Make no friendship with an angry man, neither go with a furious man.] Here caution is given, that in the election of our friends we do principally avoid those which are impatient, as those that will espouse us to many factions and quarrels.

Qui conturbat domum suam, possidebit ventum. [He that troubleth his own house shall inherit the wind.] Here is noted, that in domestical separations and breaches men do promise to themselves quieting of their mind and contentment; but still they are deceived of their expectation, and it turneth to wind.

Filius sapiens lætificat patrem: filius vero stultus mœstitia est matri suæ. [A wise son maketh a glad father, but a foolish son is the heaviness of his mother.] Here is distinguished, that fathers have most comfort of the good proof of their sons; but mothers have most discomfort of their ill proof, because women have little discerning of virtue, but of fortune.[1]

Qui celat delictum, quærit amicitiam; sed qui altero sermone repetit, separat fœderatos. [He that covereth a transgression seeketh love, but he that repeateth a

[1] In the translation he adds two other causes — the greater tenderness of the mother's affection, and (perhaps) a consciousness that her own indulgence has spoiled her son; and instead of saying that the mother has "little discerning of virtue," he only says that the father understands its value better. The allusion to fortune is omitted altogether; and indeed it is not easy to see how it bears upon the case in point; the son in question being by the supposition not unfortunate but foolish. I thought it right to mention this alteration, because it is more than a development of the remark in the text; it is a correction of the opinion implied in it.

matter separateth very friends.] Here caution is given, that reconcilement is better managed by an *amnesty*, and passing over that which is past, than by apologies and excusations.

In omni opere bono erit abundantia; ubi autem verba sunt plurima, ibi frequenter egestas. [In every good work there shall be abundance, but where there are many words there is penury.] Here is noted that words and discourse abound most where there is idleness and want.

Primus in sua causa justus; sed venit altera pars, et inquirit in eum. [He that is first in his own cause seemeth just; but the other party cometh and searcheth him.] Here is observed, that in all causes the first tale possesseth much; in sort[1] that the prejudice thereby wrought will be hardly removed, except some abuse or falsity in the information be detected.

[2] *Verba bilinguis quasi simplicia, et ipsa perveniunt ad interiora ventris.* [The words of the double-tongued man which seem artless are they that go down to the innermost parts of the belly.] Here is distinguished, that flattery and insinuation which seemeth set and artificial sinketh not far; but that entereth deep which hath shew of nature, liberty, and simplicity.

Qui erudit derisorem, ipse sibi injuriam facit; et qui arguit impium, sibi maculam generat. [He that reproveth a scorner doth himself wrong, and he that rebuketh a wicked man getteth himself a blot.] Here caution is given how we tender reprehension to arrogant and scornful natures, whose manner is to esteem it for contumely, and accordingly to return it.

[1] So the original. Edd. 1629 and 1633 have *in such sort:* an attempt at correction where none was wanted.

[2] This proverb is omitted in the translation.

Da sapienti occasionem, et addetur ei sapientia. [Give opportunity to a wise man, and he will be yet wiser.] Here is distinguished the wisdom brought into habit, and that which is but verbal and swimming only in conceit; for the one upon the occasion presented is quickened and redoubled, the other is amazed and confused.

Quomodo in aquis resplendent vultus prospicientium, sic corda hominum manifesta sunt prudentibus. [As the face of one that looketh upon the water is reflected therein, so the hearts of men are manifest unto the wise.] Here the mind of a wise man is compared to a glass, wherein the images of all diversity of natures and customs are represented; from which representation proceedeth that application,

Qui sapit, innumeris moribus aptus erit:

[a wise man will know how to apply himself to all sorts of characters].

Thus have I staid somewhat longer upon these sentences politic of Salomon than is agreeable to the proportion of an example; led with a desire to give authority to this part of knowledge, which I noted as deficient, by so excellent a precedent; and have also attended them with brief observations, such as to my understanding offer no violence to the sense, though I know they may be applied to a more divine use: but it is allowed even in divinity, that some interpretations, yea and some writings, have more of the Eagle than others. But taking them as instructions for life, they might have received large discourse, if I would have broken them and illustrated them by deducements and examples.

Neither was this in use only with the Hebrews; but it is generally to be found in the wisdom of the more ancient times, that as men found out any observation that they thought was good for life, they would gather it and express it in parable or aphorism or fable. But for fables, they were vicegerents and supplies where examples failed: now that the times abound with history, the aim is better when the mark is alive. And therefore the form of writing which of all others is fittest for this variable argument of negotiation and occasions is that which Machiavel chose wisely and aptly for government; namely, *discourse upon histories or examples.* For knowledge drawn freshly and in our view out of particulars, knoweth the way best to particulars again. And it hath much greater life for practice when the discourse attendeth upon the example, than when the example attendeth upon the discourse. For this is no point of order, as it seemeth at first, but of substance. For when the example is the ground, being set down in an history at large, it is set down with all circumstances, which may sometimes control the discourse thereupon made and sometimes supply it, as a very pattern for action;[1] whereas the examples alleged for the discourse's sake are cited succinctly and without particularity, and carry a servile aspect toward the discourse which they are brought in to make good.

But this difference is not amiss to be remembered, that as history of Times is the best ground for discourse of government, such as Machiavel handleth, so histories

[1] So edd. 1629 and 1633. The original has *gaine*. I doubt whether *action* be the right word, and should rather suspect *aime*, which might look very like *gaine* if the tail of a letter from the line above happened to strike through the *a*. The translation has *unde fit loco exemplaris ad imitationem et practicam.*

of Lives is the most proper for discourse of business, as[1] more conversant in private actions. Nay there is a ground of discourse for this purpose fitter than them both, which is *discourse upon letters*, such as are wise and weighty, as many are of Cicero *ad Atticum* and others. For letters have a great[2] and more particular representation of business than either Chronicles or Lives. Thus have we spoken both of the matter and form of this part of civil knowledge touching Negotiation,[3] which we note to be deficient.

But yet there is another part of this part, which differeth as much from that whereof we have spoken as *sapere* and *sibi sapere*, [*to be wise* and *to be wise for oneself*,] the one moving as it were to the circumference, the other to the centre. For there is a wisdom of counsel, and again there is a wisdom of pressing a man's own fortune; and they do sometimes meet, and often sever. For many are wise in their own ways that are weak for government or counsel; like ants, which is a wise creature for itself, but very hurtful for the garden. This wisdom the Romans did take much knowledge of:[4] *Nam pol sapiens* (saith the comical poet) *fingit fortunam sibi*, [the wise man fashions his fortune for himself;] and it grew to an adage, *Faber quisque fortunæ propriæ*, [every man has tools to make his own fortune with,] and Livy attributeth it to Cato the first, *In hoc viro*

[1] *is* both in orig. and in edd. 1629 and 1633. Blackbourne substituted *because it is*. Instead of "private actions," the translation substitutes "actions of all kinds great and small" — (*quoniam omnem occasionum et negotiorum, tam grandium quam leviorum, varietatem complectuntur*).

[2] So all three editions, though *great* can hardly be the right word. I should suspect *nearer*. The translation has *magis in proximo et ad vivum negotia solent repræsentare*.

[3] i. e. *de negotiis sparsis*.

[4] And yet (he adds in the translation) there were no better patriots,— *licet patriæ optimis curatoribus*.

tanta vis animi et ingenii inerat, ut quocunque loco natus esset, sibi ipse fortunam facturus videretur, [such was his force of mind and genius that in whatever state he had been born he would have made himself a fortune].

This conceit or position[1] if it be too much declared and professed, hath been thought a thing impolitic and unlucky; as was observed in Timotheus the Athenian; who having done many great services to the estate in his government, and giving an account thereof to the people as the manner was, did conclude every particular with this clause, and in this fortune had no part. And it came so to pass that he never prospered in any thing he took in hand afterward: for this is too high and too arrogant, savouring of that which Ezekiel saith of Pharaoh, *Dicis, Fluvius est meus, et ego feci memet ipsum*, [thou sayest the river is mine, and I made myself;] or of that which another prophet speaketh, that men offer sacrifices to their nets and snares; and that which the poet expresseth,

> Dextra mihi Deus, et telum quod missile[2] libro,
> Nunc adsint!

[my right hand and my spear are the God I trust in]. For these confidences were ever unhallowed, and unblessed. And therefore those that were great politiques indeed ever ascribed their successes to their felicity, and not to their skill or virtue. For so Sylla surnamed

[1] The translation has *hoc genus prudentiæ*.

[2] *inutile* in the original, and also in ed. 1633 : obviously a misprint. Ed. 1629 and the *De Augmentis* have it right.

In addition to these instances he cites in the translation another from Julius Cæsar himself. When the soothsayer reported the auspices unfavourable, he was heard to mutter "they will be more favourable when I will." The anecdote comes from Suetonius. It was the only occasion (Bacon adds) on which Cæsar so far forgot himself as to betray his secret thoughts — (*nunquam, quod memini, impotentiam cogitationum suarum arcanarum prodidit nisi simili dicto*) ; and his death followed soon after.

himself *Felix*, not *Magnus*, [the Fortunate, not the Great]. So Cæsar said[1] to the master of the ship, *Cæsarem portas et fortunam ejus*, [you carry Cæsar and his fortune].

But yet nevertheless these positions, *Faber quisque fortunæ suæ; Sapiens dominabitur astris; Invia virtuti nulla est via;* [every man should be the maker of his own fortune; the wise man will command his stars; nothing impossible to virtue:] and the like, being taken and used as spurs to industry, and not as stirrups to insolency, rather for resolution than for presumption or outward declaration, have been ever thought sound and good, and are no question imprinted in the greatest minds; who are so sensible of this opinion as they can scarce contain it within. As we see in Augustus Cæsar, (who was rather diverse from his uncle than inferior in virtue,[2]) how when he died, he desired his friends about him to give him a *Plaudite;* as if he were conscient to himself that he had played his part well upon the stage. This part of knowledge we do report also as deficient: not but that it is practised too much, but it hath not been reduced to writing. And therefore lest it should seem to any that it is not comprehensible by axiom, it is requisite, as we did in the former, that we set down some heads or passages of it.

Faber Fortunæ, sive de Ambitu vitæ.

Wherein it may appear at the first a new and unwonted argument to teach men how to raise and

[1] better (adds the translation) than in the instance above mentioned.

[2] *sed vir certe paulo moderatior.* In Bacon's character of Augustus — the fragment entitled *Imago Civilis Augusti Cæsaris* — he acknowledges that he was inferior to Julius in strength of mind, but asserts that he was superior in beauty and health of mind; Julius's aspirations being restless, boundless, and inordinate; those of Augustus sober, well ordered, and within compass

make their fortune; a doctrine wherein every man perchance will be ready to yield himself a disciple, till he see the difficulty: for Fortune layeth as heavy impositions as Virtue; and it is as hard and severe a thing to be a true politique, as to be truly moral. But the handling hereof concerneth learning greatly, both in honour and in substance: in honour, because pragmatical men may not go away with an opinion that learning is like a lark, that can mount and sing and please herself, and nothing else; but may know that she holdeth as well of the hawk, that can soar aloft, and can also descend and strike upon the prey: in substance, because it is the perfect law of inquiry of truth, *that nothing be in the globe of matter, which should not be likewise in the globe of crystal, or form;* that is that there be not any thing in being and action, which should not be drawn and collected into contemplation and doctrine. Neither doth learning admire or esteem of this architecture of fortune otherwise than as of an inferior work: for no man's fortune can be an end worthy of his being, and many times the worthiest men do abandon their fortune willingly for better respects: but nevertheless fortune as an organ of virtue and merit deserveth the consideration.

First therefore, the precept which I conceive to be most summary towards the prevailing in fortune, is to obtain that window which Momus did require, who seeing in the frame of man's heart such angles and recesses, found fault there was not a window to look into them; that is, to procure good informations of particulars touching persons, their natures, their desires and ends, their customs and fashions, their helps and advantages, and whereby they chiefly stand; so again

their weaknesses and disadvantages, and where they lie most open and obnoxious; their friends, factions, dependances; and again their opposites, enviers, competitors, their moods and times, *Sola viri molles aditus et tempora noras;* their principles, rules, and observations, and the like: and this not only of persons, but of actions; what are on foot from time to time, and how they are conducted, favoured, opposed; and how they import, and the like. For the knowledge of present actions is not only material in itself, but without it also the knowledge of persons is very erroneous: for men change with the actions; and whiles they are in pursuit they are one, and when they return to their nature they are another. These informations of particulars touching persons and actions are as the minor propositions in every active syllogism; for no excellency of observations (which are as the major propositions) can suffice to ground a conclusion, if there be error and mistaking in the minors.

That this knowledge is possible, Salomon is our surety; who saith, *Consilium in corde viri tanquam aqua profunda; sed vir prudens exhauriet illud*, [counsel in the heart of man is like deep water; but a man of understanding will draw it out]. And although the knowledge itself falleth not under precept, because it is of individuals, yet the instructions for the obtaining of it may.

We will begin therefore with this precept, according to the ancient opinion, that the sinews of wisdom are slowness of belief and distrust; that more trust be given to countenances and deeds than to words; and in words, rather to sudden passages and surprised words, than to set and purposed words. Neither let that be

feared which is said, *fronti nulla fides*, [no trusting to the face:] which is meant of a general outward behaviour, and not of the private and subtile motions and labours of the countenance and gesture; which as Q. Cicero elegantly saith, is *animi janua*, the gate of the mind. None more close than Tiberius, and yet Tacitus saith of Gallus, *Etenim vultu offensionem conjectaverat*, [he had seen displeasure in his countenance]. So again, noting the differing character and manner of his commending Germanicus and Drusus in the senate, he saith touching his fashion wherein he carried his speech of Germanicus, thus; *Magis in speciem adornatis verbis, quam ut penitus sentire videretur*, [it was in words too laboured and specious to be taken for what he really felt;] but of Drusus thus; *Paucioribus, sed intentior, et fida oratione*, [he said less, but more earnestly, and in a style of sincerity;] and in another place, speaking of his character of speech when he did any thing that was gracious and popular, he saith that in other things he was *velut eluctantium verborum*, [of a kind of struggling speech;] but then again, *solutius loquebatur quando subveniret;*] he spoke with more freedom when he was speaking in a man's favour]. So that there is no such artificer of dissimulation, nor no such commanded countenance (*vultus jussus*) that can sever from a feigned tale some of these fashions, either a more slight and careless fashion, or more set and formal, or more tedious and wandering, or coming from a man more drily and hardly.

Neither are *deeds* such assured pledges, as that they may be trusted without a judicious consideration of their magnitude and nature: *Fraus sibi in parvis fidem præstruit, ut majore emolumento fallat*, [it is a trick of

treachery to win itself credit at the first by fidelity in small things, that being thereupon trusted in greater it may deceive with more advantage;] and the Italian thinketh himself upon the point to be bought and sold, when he is better used than he was wont to be without manifest cause. For small favours, they do but lull men asleep, both as to caution and as to industry, and are as Demosthenes calleth them, *Alimenta socordiæ*, [sops to feed sloth]. So again we see how false the nature of some deeds are, in that particular which Mutianus practised upon Antonius Primus, upon that hollow and unfaithful reconcilement which was made between them; whereupon Mutianus advanced many of the friends of Antonius: *simul amicis ejus præfecturas et tribunatus largitur*, [making them prefects and tribunes:] wherein under pretence to strengthen him, he did desolate him, and won from him his dependances.

As for *words*, (though they be like waters to physicians, full of flattery and uncertainty,) yet they are not to be despised, specially with the advantage of passion and affection. For so we see Tiberius upon a stinging and incensing speech of Agrippina came a step forth of his dissimulation, when he said, *You are hurt because you do not reign;* of which Tacitus saith, *Audita hæc raram occulti pectoris vocem elicuere; correptamque Græco versu admonuit, ideo lædi quia non regnaret*, [these words drew from Tiberius the voice, so rarely heard, of his secret heart: he retorted upon her with a Greek verse, that she was hurt, &c.]. And therefore the poet doth elegantly call passions tortures, that urge men to confess their secrets:

Vino tortus et ira.

And experience sheweth, there are few men so true to themselves and so settled, but that, sometimes upon heat, sometimes upon bravery, sometimes upon kindness, sometimes upon trouble of mind and weakness, they open themselves; specially if they be put to it with a counter-dissimulation, according to the proverb of Spain, *Di mentira, y sacaras verdad, Tell a lie and find a truth.*

As for the knowing of men which is at second hand from reports; men's weaknesses[1] and faults are best known from their enemies, their virtues and abilities from their friends, their customs and times from their servants, their conceits and opinions from their familiar friends with whom they discourse most. General fame is light, and the opinions conceived by superiors or equals[2] are deceitful; for to such men are more masked: *Verior fama e domesticis emanat*, [the truer kind of report comes from those who see them at home].

But the soundest disclosing and expounding of men is by their natures and ends; wherein the weakest sort of men are best interpreted by their natures, and the wisest by their ends.[3] For it was both pleasantly and wisely said (though I think very untruly) by a nuncio of the pope, returning from a certain nation where he served as lieger; whose opinion being asked touching the appointment of one to go in his place, he wished that in any case they did not send one that was too wise; because no very wise man would ever imagine what they in that country were like to do. And certainly it is an error frequent for men to shoot over, and

[1] So ed. 1633. The original and ed. 1629 have *weaknesse*.

[2] The translation omits *equals:* a correction no doubt of Bacon's own.

[3] According to the translation, the weaker *and the more simple* by their nature; the wiser *and the more close* by their ends.

to suppose deeper ends and more compass reaches than are: the Italian proverb being elegant, and for the most part true:

Di danari, di senno, e di fede,
Cè nè manco che non credi:

There is commonly less money, less wisdom, and less good faith, than men do account upon.

But Princes upon a far other reason are best interpreted by their natures, and private persons by their ends; for princes being at the top of human desires, they have for the most part no particular ends whereto they aspire,[1] by distance from which a man might take measure and scale of the rest of their actions and desires; which is one of the causes that maketh their hearts more inscrutable.[2] Neither is it sufficient to inform ourselves in men's ends and natures of the variety of them only, but also of the predominancy, what humour reigneth most, and what end is principally sought. For so we see, when Tigellinus saw himself outstripped by Petronius Turpilianus in Nero's humours of pleasures, *metus ejus rimatur*,[3] he wrought upon Nero's fears, whereby he brake the other's neck.

But to all this part of inquiry the most compendious way resteth in three things. The first, to have general acquaintance and inwardness with those which have general acquaintance and look most into the world; and specially according to the diversity of business and the diversity of persons, to have privacy and conversa-

[1] *i. e.* not earnestly and constantly — (*ad quos, præsertim vehementer et constanter, aspirent*).

[2] Whereas private persons are almost all like travellers making for their journey's end; and if you know what they are aiming at, you may guess by that what they are likely to do and what not to do.

[3] So edd. 1629 and 1633. The original has *rinasur*.

tion with some one friend at least which is perfect and well intelligenced in every several kind. The second is to keep a good mediocrity in liberty of speech and secrecy; in most things liberty; secrecy where it importeth; for liberty of speech inviteth and provoketh liberty to be used again, and so bringeth much to a man's knowledge; and secrecy, on the other side, induceth trust and inwardness. The last is the reducing of a man's self to this watchful and serene habit, as to make account and purpose, in every conference and action, as well to observe as to act. For as Epictetus would have a philosopher in every particular action to say to himself, *Et hoc volo, et etiam institutum servare*, [I would do this and keep my course too;] so a politic man in every thing should say to himself, *Et hoc volo, ac etiam aliquid addiscere*, [I would do it and also learn something from it].[1] I have stayed the longer upon this precept of obtaining good information, because it is a main part by itself, which answereth to all the rest. But, above all things, caution must be taken that men have a good stay and hold of themselves, and that this much knowledge do not draw on much meddling; for nothing is more unfortunate than light and rash intermeddling in many matters; so that this variety of knowledge tendeth in conclusion but only to this, to make a better and freer choice of those actions which may concern us, and to conduct them with the less error and the more dexterity.

The second precept concerning this knowledge is,

[1] *i. e.* something which may be of use hereafter. And therefore (adds the translation) those who are so intent on the business in hand that, like Montaigne, they pay no attention to anything that turns up by the way, make excellent ministers for Kings and Commonwealths, but bad managers of their own fortune.

for men to take good information touching their own person, and well to understand themselves: knowing that, as St. James saith, though men look oft in a glass, yet they do suddenly forget themselves; wherein as the divine glass is the word of God, so the politic glass is the state of the world or times wherein we live; in the which we are to behold ourselves.

For men ought to take an unpartial view of their own abilities and virtues; and again of their wants and impediments; accounting these with the most, and those other with the least; and from this view and examination to frame the considerations following.

First, to consider how the constitution of their nature sorteth with the general state of the times; which if they find agreeable and fit, then in all things to give themselves more scope and liberty; but if differing and dissonant, then in the whole course of their life to be more close, retired, and reserved: as we see in Tiberius, who was never seen at a play and came not into the senate in twelve of his last years; whereas Augustus Cæsar lived ever in men's eyes, which Tacitus observeth: *Alia Tiberio morum via*, [Tiberius's ways were different].[1]

Secondly, to consider how their nature sorteth with professions and courses of life, and accordingly to make election, if they be free; and, if engaged, to make the departure at the first opportunity: as we see was done by duke Valentine, that was designed by his father to a sacerdotal profession, but quitted it soon after in regard of his parts and inclination; being such nevertheless, as a man cannot tell well whether they were worse for a prince or for a priest.

[1] In the translation Pericles is mentioned as another instance — (*eadem et Periclis ratio fuit*).

Thirdly, to consider how they sort with those whom they are like to have competitors and concurrents, and to take that course wherein there is most solitude, and themselves like to be most eminent: as Cæsar Julius did, who at first was an orator or pleader; but when he saw the excellency of Cicero, Hortensius, Catulus, and others, for eloquence, and saw there was no man of reputation for the wars but Pompeius, upon whom the state was forced to rely, he forsook his course begun toward a civil and popular greatness, and transferred his designs to a martial greatness.

Fourthly, in the choice of their friends and dependances, to proceed according to the composition of their own nature; as we may see in Cæsar, all whose friends and followers were men active and effectual, but not solemn or of reputation.[1]

Fifthly, to take special heed how they guide themselves by examples, in thinking they can do as they see others do; whereas perhaps their natures and carriages are far differing; in which error it seemeth Pompey was, of whom Cicero saith, that he was wont often to say, *Sylla potuit, ego non potero?* [Sylla could do it, why not I?] wherein he was much abused, the natures and proceedings of himself and his example being the unlikest in the world; the one being fierce, violent, and pressing the fact; the other solemn, and full of majesty and circumstance, and therefore the less effectual.

But this precept touching the politic knowledge of ourselves hath many other branches whereupon we cannot insist.

[1] And men (the translation adds) who were infinitely loyal to Cæsar himself, but arrogant and contemptuous towards all men else; such as Antonius, Hirtius, Pansa, Oppius, Balbus, Dolabella, Pollio, and the rest.

Next to the well understanding and discerning of a man's self, there followeth the well opening and revealing[1] a man's self; wherein we see nothing more usual than for the more able man to make the less shew. For there is a great advantage in the well setting forth of a man's virtues, fortunes, merits; and again in the artificial covering of a man's weaknesses, defects, disgraces; staying upon the one, sliding from the other; cherishing the one by circumstances, gracing the other by exposition, and the like: wherein we see what Tacitus saith of Mutianus, who was the greatest politique of his time, *Omnium quæ dixerat feceratque arte quâdam ostentator*, [having a certain art of displaying to advantage all he said and did;] which requireth indeed some art, lest it turn tedious and arrogant; but yet so as ostentation (though it be to the first degree of vanity) seemeth to me rather a vice in manners than in policy: for as it is said, *Audacter calumniare*,[2] *semper aliquid hæret*, [slander boldly, there is ever some that sticks;] so, except it be in a ridiculous degree of deformity, *Audacter te vendita, semper aliquid hæret*, [put forward your own pretensions boldly — something always sticks]. For it will stick with the more ignorant and inferior sort of men, though men of wisdom and rank do smile at it and despise it; and yet the authority won with many doth countervail the disdain of a few. But if it be carried with de-

[1] In the translation this part of the subject is distributed into three separate heads; — the art of setting a man's self forth to advantage (*se ostentare*) — of making himself understood (*se declarare*) — of turning and shaping himself according to occasion (*flectere se et effingere*); and the order of the precepts which follow is changed to suit this arrangement. The three next paragraphs belong to the first head, — the art of ostentation.

[2] *calumniari* in the original.

cency and government, as with a natural, pleasant, and ingenious[1] fashion; or at times when it is mixed with some peril and unsafety, (as in military persons;) or at times when others are most envied; or with easy and careless passage to it and from it, without dwelling too long or being too serious; or with an equal freedom of taxing a man's self as well as gracing himself; or by occasion of repelling or putting down others' injury or insolency; it doth greatly add to reputation: and surely not a few solid natures, that want this ventosity and cannot sail in the height of the winds, are not without some prejudice and disadvantage by their moderation.

But for these flourishes and enhancements of virtue, as they are not perchance unnecessary, so it is at least necessary that virtue be not disvalued and imbased under the just price; which is done in three manners: by offering and obtruding a man's self; wherein men think he is rewarded, when he is accepted: by doing too much;[2] which will not give that which is well done leave to settle, and in the end induceth satiety: and by finding too soon the fruit of a man's virtue, in commendation, applause, honour, favour; wherein if a man be pleased with a little, let him hear what is truly said, *Cave ne insuetus rebus majoribus videaris, si hæc te res parva sicuti magna delectat*, [if he take so much delight in a little thing, he will be thought unused to greater things].

But the covering of defects is of no less importance than the valuing of good parts; which may be done

[1] *i. e.* ingenuous.

[2] Especially in the beginning, and at once — (*quando quis in principio rei gerendæ viribus suis nimium abutitur, et quod sensim erat præstandum uno impetu effundit*).

likewise in three manners; by Caution, by Colour, and by Confidence. Caution is when men do ingeniously and discreetly avoid to be put into those things for which they are not proper: whereas contrariwise bold and unquiet spirits will thrust themselves into matters without difference, and so publish and proclaim all their wants. Colour is when men make a way for themselves to have a construction made of their faults or wants as proceeding from a better cause, or intended for some other purpose: for of the one it is well said, *Sæpe latet vitium proximitate boni*, [a vice will often hide itself under the shadow of a neighbouring virtue;] and therefore whatsoever want a man hath, he must see that he pretend the virtue that shadoweth it; as if he be dull, he must affect gravity; if a coward, mildness; and so the rest: for the second, a man must frame some probable cause why he should not do his best, and why he should dissemble his abilities; and for that purpose must use to dissemble those abilities which are notorious in him,[1] to give colour that his true wants are but industries and dissimulations. For Confidence, it is the last[2] but the surest remedy; namely, to depress and seem to despise whatsoever a man cannot attain; observing the good[3] principle of the merchants, who endeavour to raise the price of their own commodities, and to beat down the price of others. But there is a confidence that passeth[4] this other; which is, to face out a man's own defects, in

[1] This clause is omitted in the translation; which says only *ut quod non possimus nolle videamur*.

[2] Meaning, I think, the least worthy — the last to be resorted to. The translation has *impudens certe est remedium, sed tamen* &c.

[3] *i. e.* prudent — *mercatorum prudentium more, quibus solenne est et proprium, ut* &c.

[4] *i. e.* in impudence — (*hoc ipso impudentius*).

seeming to conceive that he is best in those things wherein he is failing; and, to help that again, to seem on the other side that he hath least opinion of himself in those things wherein he is best: like as we shall see it commonly in poets, that if they shew their verses, and you except to any, they will say *that that line cost them more labour than any of the rest;* and presently will seem to disable and suspect rather some other line, which they know well enough to be the best in the number. But above all, in this righting and helping of a man's self in his own carriage, he must take heed he shew not himself dismantled and exposed to scorn and injury, by too much dulceness, goodness, and facility of nature, but shew some sparkles of liberty, spirit, and edge: which kind of fortified carriage, with a ready rescuing[1] of a man's self from scorns, is sometimes of necessity imposed upon men by somewhat in their person or fortune;[2] but it ever succeedeth with good felicity.[3]

Another precept of this knowledge is, by all possible endeavour to frame the mind to be pliant and obedient to occasion; for nothing hindereth men's fortunes so

[1] So ed. 1633. The original and ed. 1629 have *rescussing*.

[2] As in the case of deformed persons, and bastards, and persons disgraced — (*veluti fit in deformibus, et spuriis, et ignominia aliqua mulctatis*).

[3] According to the arrangement adopted in the translation, the observations on the first head — the art of ostentation — end here; and the art of *declaration*, that is of making oneself understood, is next handled. The substance of the remarks on this head will be found in page 378. *post*, in the paragraph beginning "Another part of this knowledge is the observing a good mediocrity," &c. Then follows the paragraph, which stands next in the text; which refers to the third head, — *quod ad animum flectendum et effingendum attinet.* And with this he concludes what he has to say of "the two *summary* precepts concerning the architecture of Fortune." The rest he gives as a sample of particular precepts (*præcepta sparsa*) on the same subject.

much as this *Idem manebat neque idem decebat*, [continuing the same when the same is no longer fit:] men are where they were, when occasions turn: and therefore to Cato, whom Livy maketh such an architect of fortune, he addeth that he had *versatile ingenium*, [a wit that could turn well]. And thereof it cometh that these grave solemn wits, which must be like themselves and cannot make departures, have more dignity than felicity. But in some it is nature to be somewhat viscous and inwrapped, and not easy to turn. In some it is a conceit that is almost a nature, which is, that men can hardly make themselves believe that they ought to change their course, when they have found good by it in former experience. For Machiavel noteth wisely, how Fabius Maximus would have been temporizing still, according to his old bias, when the nature of the war was altered and required hot pursuit. In some other it is want of point and penetration in their judgment, that they do not discern when things have a period, but come in too late after the occasion; as Demosthenes compareth the people of Athens to country fellows when they play in a fence school, that if they have a blow, then they remove their weapon to that ward, and not before. In some other it is a lothness to leese labours passed, and a conceit that they can bring about occasions to their ply;[1] and yet in the end, when they see no other remedy, then they come to it with disadvantage; as Tarquinius, that gave for the third part of Sibylla's books the treble price, when he might at first have had all three for the simple. But from whatsoever root or cause this restiveness of mind proceedeth, it is a thing most prejudicial; and nothing

[1] The rest of this sentence is omitted in the translation.

is more politic than to make the wheels of our mind concentric and voluble with the wheels of fortune.

[1] Another precept of this knowledge, which hath some affinity with that we last spake of, but with difference, is that which is well expressed, *Fatis accede Deisque*, [take the way which the Fates and the Gods offer;] that men do not only turn with the occasions but also run with the occasions, and not strain their credit or strength to over hard or extreme points, but choose in their actions that which is most passable: for this will preserve men from foil, not occupy them too much about one matter, win opinion of moderation, please the most,[2] and make a shew of a perpetual felicity in all they undertake; which cannot but mightily increase reputation.

Another part of this knowledge seemeth to have some repugnancy with the former two, but not as I understand it; and it is that which Demosthenes uttereth in high terms; *Et quemadmodum receptum est, ut exercitum ducat imperator, sic et a cordatis viris res ipsæ ducendæ; ut quæ ipsis videntur, ea gerantur, et non ipsi eventus persequi cogantur;* [as the captain leads the army, so should wise men lead affairs; they should get that done which they think good to be done, and not be forced to follow at the heels of events]. For if we observe, we shall find two differing kinds of sufficiency in managing of business: some can make use of occasions aptly

[1] This, in the translation, stands as the second of the *præcepta sparsa*; that of accustoming the mind to value things according as they conduce to our particular ends being placed first. Throughout this part of the work the meaning is expressed more fully and clearly in the Latin, but where no material alteration or addition is introduced, and where the meaning of the English is plain enough, I do not stay to point out the differences.

[2] That is, I suppose, by bringing us less into collision with them—(*pauciores offendemus*).

and dexterously, but plot little; some can urge and pursue their own plots well, but cannot accommodate nor take in;[1] either of which is very unperfect without the other.

Another part of this knowledge is the observing a good mediocrity in the declaring or not declaring a man's self: for although depth of secrecy, and making way *qualis est via navis in mari*, [like the way of a ship through the water,] (which the French calleth *sourdes menées*, when men set things in work without opening themselves at all,) be sometimes both prosperous and admirable; yet many times *Dissimulatio errores parit qui dissimulatorem ipsum illaqueant*, [dissimulation breeds mistakes in which the dissembler himself is caught]. And therefore we see the greatest politiques have in a natural and free manner professed their desires, rather than been reserved and disguised in them. For so we see that Lucius Sylla made a kind of profession, *that he wished all men happy or unhappy as they stood his friends or enemies.* So Cæsar, when he went first into Gaul, made no scruple to profess *that he had rather be first in a village than second at Rome.* So again as soon as he had begun the war, we see what Cicero saith of him; *Alter* (meaning of Cæsar) *non recusat, sed quodammodo postulat, ut* (*ut est*) *sic appelletur tyrannus*, [he does not refuse, but in a manner demands, to be called what he is — tyrant]. So we may see in a letter of Cicero to Atticus, that Augustus Cæsar in his very entrance into affairs, when he was a dearling of the senate, yet in his harangues

[1] So in all three editions, though the sentence seems to be imperfect. The meaning must be that they cannot seize and turn to advantage accidents which fall out unexpectedly in their favour. The translation has *alii toti sunt in machinando, qui occasiones quæ opportune incidunt non arripiunt.*

to the people would swear *Ita parentis honores consequi liceat*, [as I hope to attain my father's honours;] which was no less than the tyranny, save that, to help it he would stretch forth his hand towards a statua of Cæsar's that was erected in the place: and[1] men laughed and wondered and said Is it possible? or Did you ever hear the like?[2] and yet thought[3] he meant no hurt, he did it[4] so handsomely and ingenuously. And all these were prosperous: whereas Pompey, who tended to the same end but in a more dark and dissembling manner, as Tacitus saith of him, *Occultior non melior*, [having his intentions better concealed but not better,] wherein Sallust concurreth, *ore probo, animo inverecundo*, [an honest tongue but a shameless mind,] made it his design by infinite secret engines to cast the state into an absolute anarchy and confusion, that the state might cast itself into his arms for necessity and protection, and so the sovereign power be put upon him, and he never seen in it: and when he had brought it (as he thought) to that point, when he was chosen consul alone, as never any was, yet he could make no great matter of it, because men understood him not; but was fain in the end to go the beaten track of getting arms into his hands, by colour of the doubt of Cæsar's designs: so tedious, casual, and unfortunate are these deep dissimulations; whereof it seemeth Tacitus made this judgment, that they were a cunning of an inferior form in regard of true policy; attributing the one to Augustus, the other to Tiberius, where

[1] So the original; edd. 1629 and 1633 have *whereat many men.*

[2] So the original; edd. 1629 and 1633 have *like to this.*

[3] *though* in orig.

[4] *i. e.* he seemed to say what he felt — (*nihil malitiæ in eo suspicabantur qui tam candide et ingenue quid sentiret loqueretur*).

speaking of Livia he saith, *Et cum artibus mariti simulatione filii bene composita*, [that she was of a happy composition, uniting the arts of her husband with the dissimulation of her son;] for surely the continual habit of dissimulation is but a weak and sluggish cunning, and not greatly politic.

Another precept of this Architecture of Fortune is to accustom our minds to judge of the proportion or value of things as they conduce and are material to our particular ends; and that to do substantially, and not superficially. For we shall find the logical part (as I may term it) of some men's minds good, but the mathematical part erroneous; that is, they can well judge of consequences, but not of proportions and comparison;[1] preferring things of shew and sense before things of substance and effect. So some fall in love with access to princes, others with popular fame and applause, supposing they are things of great purchase; when in many cases they are but matters of envy, peril, and impediment. So some measure things according to the labour and difficulty or assiduity which are spent about them; and think if they be ever moving, that they must needs advance and proceed; as Cæsar saith in a despising manner of Cato the second, when he describeth how laborious and indefatigable he was to no great purpose; *Hæc omnia magno studio agebat.* So in most things men are ready to abuse themselves in thinking the greatest means[2] to be best, when it should be the fittest.

As for the true marshalling of men's pursuits towards

[1] *De* pretiis *vero imperitissime.* — De Aug.

[2] *i. e.* the greatest persons used as means — (*si magni alicujus aut honorati viri operâ utantur*).

their fortune as they are more or less material, I hold them to stand thus. First the amendment of their own minds; for the remove of the impediments of the mind will sooner clear the passages of fortune, than the obtaining fortune will remove the impediments of the mind. In the second place I set down wealth and means; which I know most men would have placed first, because of the general use which it beareth towards all variety of occasions. But that opinion I may condemn with like reason as Machiavel doth that other, that moneys were the sinews of the wars; whereas (saith he) the true sinews of the wars are the sinews of men's arms, that is, a valiant, populous, and military nation; and he voucheth aptly the authority of Solon, who when Crœsus shewed him his treasury of gold said to him, that if another came that had better iron he would be master of his gold. In like manner it may be truly affirmed that it is not moneys that are the sinews of fortune, but it is the sinews and steel of men's minds, wit, courage, audacity, resolution, temper, industry, and the like. In third[1] place I set down reputation, because of the peremptory tides and currents it hath; which if they be not taken in their due time are seldom recovered, it being extreme hard to play an after-game of reputation. And lastly I place honour, which is more easily won by any of the other three, much more by all, than any of them can be purchased by honour. To conclude this precept, as there is order and priority in matter, so is there in time, the preposterous placing whereof is one of the commonest errors; while men fly to their ends when they should intend their beginnings, and do not take things in order of time as they

[1] So the original and ed. 1629. Ed. 1633 has *the third*.

come on, but marshal them according to greatness and not according to instance; not observing the good precept, *Quod nunc instat agamus*,

[Despatch we now what stands us now upon].

Another precept of this knowledge is, not to embrace any matters which do occupy too great a quantity of time, but to have that sounding in a man's ears, *Sed fugit interea, fugit irreparabile tempus*, [while he is making ready to do it the time for doing it is gone;] and that is the cause why those which take their course of rising by professions of burden, as lawyers, orators, painful divines, and the like, are not commonly so politic for their own fortune,[1] otherwise than in their ordinary way, because they want time to learn particulars, to wait occasions, and to devise plots.[2]

Another precept of this knowledge is to imitate nature which doth nothing in vain; which surely a man may do, if he do well interlace his business, and bend not his mind too much upon that which he principally intendeth.[3] For a man ought in every particular action so to carry the motions of his mind, and so to have one thing under another, as if he cannot have that he seeketh in the best degree, yet to have it in a second, or so in a third; and if he can have no part of that which he purposed, yet to turn the use of it to somewhat else;[4] and if he cannot make any thing of it for the present, yet to make it as a seed of somewhat in

[1] So the original. Edd. 1629 and 1638 have *fortunes*.

[2] Whereas (he adds in the translation) you will find in courts and commonwealths that the best promoters of their own fortune are those who have no public duty to discharge, and make their own rising their only business.

[3] This last clause is omitted in the translation.

[4] *i. e.* to turn his labour taken therein to some other use —(*ad alium quempiam præter destinatum finem operam impensam flectamus*).

time to come; and if he can contrive no effect or substance from it, yet to win some good opinion by it, or the like; so that he should exact an account [1] of himself, of every action to reap somewhat, and not to stand amazed and confused if he fail of that he chiefly meant: for nothing is more impolitic than to mind actions wholly one by one; for he that doth so leeseth infinite occasions which intervene, and are many times more proper and propitious for somewhat that he shall need afterwards, than for that which he urgeth for the present; and therefore men must be perfect in that rule, *Hæc oportet facere, et illa non omittere*, [these things ought ye to do, and not to leave the other undone].

Another precept of this knowledge is, not to engage a man's self peremptorily in any thing, though it seem not liable to accident; but ever to have a window to fly out at, or a way to retire;[2] following the wisdom in the ancient fable of the two frogs, which consulted when their plash was dry whither they should go; and the one moved to go down into a pit, because it was not likely the water would dry there; but the other answered, *True, but if it do, how shall we get out again?*

Another precept of this knowledge is that ancient precept of Bias, construed not to any point of perfidiousness but only to caution and moderation, *Et ama tanquam inimicus futurus, et odi tanquam amaturus*, [love your friend as you would love one who may hereafter be your enemy; hate your enemy as one who may hereafter be your friend;] for it utterly betrayeth all utility for men to embark themselves too far in un-

[1] So the original. Edd. 1629 and 1633 omit *an*.

[2] The rest of this paragraph is omitted in the translation.

fortunate friendships, troublesome spleens, and childish and humorous envies or emulations.

But I continue this beyond the measure of an example; led, because I would not have such knowledges which I note as deficient to be thought things imaginative or in the air, or an observation or two much made of; but things of bulk and mass, whereof an end is hardlier made than a beginning. It must be likewise conceived, that in these points which I mention and set down, they are far from complete tractates of them, but only as small pieces for patterns. And lastly, no man I suppose will think that I mean fortunes are not obtained without all this ado; for I know they come tumbling into some men's laps; and a number obtain good fortunes by diligence in a plain way, little intermeddling, and keeping themselves from gross errors.

But as Cicero, when he setteth down an Idea of a perfect Orator, doth not mean that every pleader should be such; and so likewise, when a Prince or a Courtier hath been described by such as have handled those subjects, the mould hath used to be made according to the perfection of the art, and not according to common practice: so I understand it that it ought to be done in the description of a Politic man; I mean politic for his own fortune.

But it must be remembered all this while, that the precepts which we have set down are of that kind which may be counted and called *bonæ artes*, [honest arts]. As for evil arts, if a man would set down for himself that principle of Machiavel, *that a man seek not to attain virtue itself, but the appearance only thereof; because the credit of virtue is a help, but the use of it is cumber;* or that other of his principles,

that he presuppose that men are not fitly to be wrought otherwise but by fear, and therefore that he seek to have every man obnoxious, low, and in strait, which the Italians call *seminar spine*, to sow thorns; or that other principle contained in the verse which Cicero citeth, *Cadant amici, dummodo inimici intercidant*, [down with friends so enemies go down with them,] as the Triumvirs, which sold every one to other the lives of their friends for the deaths of their enemies; or that other protestation of L. Catilina, to set on fire and trouble states, to the end to fish in droumy waters, and to unwrap their fortunes; *Ego si quid in fortunis meis excitatum sit incendium, id non aqua sed ruina restinguam*, [if my fortunes be set on fire I will put it out not with water but with demolition:] or that other principle of Lysander *that children are to be deceived with comfits, and men with oaths:* and the like evil and corrupt positions, whereof (as in all things) there are more in number than of the good: certainly with these dispensations from the laws of charity and integrity the pressing of a man's fortune may be more hasty and compendious. But it is in life as it is in ways; the shortest way is commonly the foulest, and surely the fairer way is not much about.

But men if they be in their own power and do bear and sustain themselves, and be not carried away with a whirlwind or tempest of ambition, ought in the pursuit of their own fortune to set before their eyes not only that general map of the world, that *all things are vanity and vexation of spirit*, but many other more particular cards and directions: chiefly that, that Being without well-being is a curse and the greater being the greater curse, and that all virtue is most rewarded and all

wickedness most punished in itself: according as the poet saith excellently:

> Quæ vobis, quæ digna, viri, pro laudibus istis
> Præmia posse rear solvi? pulcherrima primum
> Dii *moresque* dabunt vestri:
>
> [What recompence, O friends, can I hold out
> Worthy such deeds? The best is that ye have,
> God's blessing and your proper nobleness:]

and so of the contrary. And secondly they ought to look up to the eternal providence and divine judgment, which often subverteth the wisdom of evil plots and imaginations, according to that Scripture, *He hath conceived mischief, and shall bring forth a vain thing.* And although men should refrain themselves from injury and evil arts, yet this incessant and sabbathless pursuit of a man's fortune leaveth not tribute which we owe to God of our time; who (we see) demandeth a tenth of our substance, and a seventh, which is more strict, of our time: and it is to small purpose to have an erected face towards heaven, and a perpetual grovelling spirit upon earth, eating dust as doth the serpent; *Atque affigit humo divinæ particulam auræ*, [fixing to earth the etherial spark divine]. And if any man flatter himself that he will employ his fortune well though he should obtain it ill, as was said concerning Augustus Cæsar, and after of Septimius Severus, *that either they should never have been born or else they should never have died*, they did so much mischief in the pursuit and ascent of their greatness, and so much good when they were established; yet these compensations and satisfactions are good to be used, but never good to be purposed. And lastly, it is not amiss for men in their race toward their fortune to cool themselves a

little with that conceit which is elegantly expressed by the emperor Charles the fifth in his instructions to the king his son, *that fortune hath somewhat of the nature of a woman, that if she be too much wooed she is the farther off.* But this last is but a remedy for those whose tastes are corrupted: let men rather build upon that foundation which is as a corner-stone of divinity and philosophy, wherein they join close, namely that same *Primum quærite.* For divinity saith, *Primum quærite regnum Dei, et ista omnia adjicientur vobis,* [seek ye first the kingdom of God, and all these things shall be added unto you:] and philosophy saith, *Primum quærite bona animi, cætera aut aderunt aut non oberunt,* [seek ye first the good things of the mind, all other good things will either come or not be wanted]. And although the human foundation hath somewhat of the sand,[1] as we see in M. Brutus when he brake forth into that speech,

Te colui, Virtus, ut rem; at tu nomen inane es;

[I took thee, Virtue, for a reality, but I find thee an empty name;] yet the divine foundation is upon the rock. But this may serve for a taste of that knowledge which I noted as deficient.

¶ [2] Concerning Government, it is a part of knowl-

[1] *same* in the original: *sands* in edd. 1629 and 1633.

[2] De Aug. viii. 3. The first part of this chapter is entirely altered in the translation; the remarks on the secret nature of Government, as a subject not proper for scrutiny, being omitted altogether; and the complimentary excuse for not entering upon it himself being transferred to the opening of the book. In this place indeed he speaks of it as a subject which his own long experience as an officer of state qualified him to handle, and on which he had some work in contemplation, though he thought it would be either abortive or posthumous; alluding probably to the *New Atlantis*, in which we know from Dr. Rawley that he did intend to exhibit a model of a perfect government. For the present however he confines himself to two treatises, given by way of example; one on the art of extending the bounds of Em-

edge secret and retired, in both these respects in which things are deemed secret; for some things are secret because they are hard to know, and some because they are not fit to utter. We see all governments are obscure and invisible.

> Totamque infusa per artus
> Mens agitat molem, et magno se corpore miscet.
>
> [In every pore diffused the great mind works,
> Stirs all the mass, and thro' the huge frame lives.]

Such is the description of governments. We see the government of God over the world is hidden, insomuch as it seemeth to participate of much irregularity and confusion. The government of the Soul in moving the Body is inward and profound, and the passages thereof hardly to be reduced to demonstration. Again, the wisdom of antiquity (the shadows whereof are in the poets) in the description of torments and pains, next unto the crime of rebellion which was the Giants' offence, doth detest the offence of futility,[1] as in Sisyphus and Tantalus. But this was meant of particulars: nevertheless even unto the general rules and discourses of policy and government there is due a reverent and reserved handling.

But contrariwise in the governors toward the governed all things ought, as far as the frailty of man permitteth, to be manifest and revealed. For so it is expressed in the Scriptures touching the government of God, that this globe, which seemeth to us a dark and shady body, is in the view of God as crystal: *Et in conspectu sedis tanquam mare vitreum simile crystallo*, [and

pire (which is a translation of the twenty-ninth Essay); the other on Universal Justice.

[1] So edd. 1629 and 1633. The original has *facilitie*. By *futility* I understand *idle curiosity*.

before the Throne there was a sea of glass, like unto crystal]. So unto princes and states, and specially towards wise senates and councils, the natures and dispositions of the people, their conditions and necessities, their factions and combinations, their animosities and discontents, ought to be, in regard of the variety of their intelligences, the wisdom of their observations, and the height of their station where they keep sentinel, in great part clear and transparent. Wherefore, considering that I write to a king that is a master of this science, and is so well assisted, I think it decent to pass over this part in silence, as willing to obtain the certificate which one of the ancient philosophers aspired unto; who being silent, when others contended to make demonstration of their abilities by speech, desired it might be certified for his part, *that there was one that knew how to hold his peace.*

Notwithstanding, for the more public part of government, which is Laws, I think good to note only one deficience; which is, that all those which have written of laws, have written either as philosophers or as lawyers, and none as statesmen. As for the philosophers, they make imaginary laws for imaginary commonwealths; and their discourses are as the stars, which give little light because they are so high. For the lawyers, they write according to the states where they live, what is received law, and not what ought to be law: for the wisdom of a lawmaker is one, and of a lawyer is another. For there are in nature certain fountains of justice, whence all civil laws are derived but as streams; and like as waters do take tinctures and tastes from the soils through which they run, so do civil laws vary according to the regions and governments where they are

planted, though they proceed from the same fountains. Again, the wisdom of a lawmaker consisteth not only in a platform of justice, but in the application thereof; taking into consideration by what means laws may be made certain, and what are the causes and remedies of the doubtfulness and incertainty of law; by what means laws may be made apt and easy to be executed, and what are the impediments and remedies in the execution of laws; what influence laws touching private right of *meum* and *tuum* have into the public state, and how they may be made apt and agreeable; how laws are to be penned and delivered, whether in Texts or in Acts; brief or large; with preambles or without; how they are to be pruned and reformed from time to time; and what is the best means to keep them from being too vast in volumes or too full of multiplicity and crossness; how they are to be expounded, when upon causes emergent and judicially discussed, and when upon responses and conferences touching general points or questions; how they are to be pressed, rigorously or tenderly; how they are to be mitigated by equity and good conscience; and whether discretion and strict law are to be mingled in the same courts or kept apart in several courts; again, how the practice, profession, and erudition of law is to be censured and governed; and many other points touching the administration, and (as I may term it) animation of laws. Upon which I insist the less, because I purpose (if God give me leave), having begun a work of this nature in aphorisms,[1] to propound it hereafter noting it in the mean time for deficient.

De prudentia legislatoria sive de fontibus Juris.

[1] This was no doubt the treatise which is given by way of specimen in the *De Augmentis*. The perfection of a law is there described as consisting

And for your Majesty's laws of England, I could say much of their dignity, and somewhat of their defect; but they cannot but excel the civil laws in fitness for the government: for the civil law was *non hos quæsitum munus in usus;* it was not made for the countries which it governeth. Hereof I cease to speak, because I will not intermingle matter of action with matter of general learning.[1]

Thus have I concluded this portion of learning touching Civil Knowledge; and with civil knowledge have concluded Human Philosophy; and with human philosophy, Philosophy in General. And being now at some pause, looking back into that I have passed through, this writing seemeth to me, (*si nunquam fallit imago*) as far as a man can judge of his own work, not much better than that noise or sound which musicians make while they are tuning their instruments; which is nothing pleasant to hear, but yet is a cause why the music is sweeter afterwards. So have I been content to tune the instruments of the muses, that they may play that have better hands. And surely, when I set before me the condition of these times, in which learning hath made her third visitation or circuit, in all the qualities thereof; as the excellency and vivacity of the wits of this age; the noble helps and lights which we have by the travails of ancient writers; the art of printing, which communicateth books to men of all

in five things: it must be certain in its meaning; just in its rules; convenient in execution; agreeable to the form of government; and productive of virtue in the governed. Of these heads the first only is discussed; but under it almost all the points enumerated in the text come under consideration, more or less completely.

[1] This paragraph is omitted in the translation.

fortunes; the openness of the world by navigation, which hath disclosed multitudes of experiments, and a mass of natural history; the leisure wherewith these times abound, not employing men so generally in civil business, as the states of Græcia did in respect of their popularity, and the state of Rome in respect of the greatness of their monarchy; the present disposition of these times at this instant to peace;[1] the consumption of all that ever can be said in controversies of religion, which have so much diverted men from other sciences; the perfection of your Majesty's learning, which as a phœnix may call whole vollies of wits to follow you; and the inseparable propriety of time, which is ever more and more to disclose truth; I cannot but be raised to this persuasion, that this third period of time will far surpass that of the Græcian and Roman learning: only if men will know their own strength and their own weakness both; and take one from the other light of invention, and not fire of contradiction; and esteem of the inquisition of truth as of an enterprise, and not as of a quality or ornament; and employ wit and magnificence to things of worth and excellency, and not to things vulgar and of popular estimation. As for my labours, if any man shall please himself or others in the reprehension of them, they shall make that ancient and patient request, *Verbera sed audi*, [strike me if you will, only hear me;] let men reprehend them, so they observe and weigh them. For the

[1] This was written just after the conclusion of peace between England and Spain; when the translation was published the *disposition* of the times was less peaceable, but a greater part of Europe was actually at peace; and accordingly instead of the expression in the text he substitutes, "the peace which is at this time enjoyed by Britain, Spain, Italy, France too at last, and other regions not a few."

appeal is (lawful though it may be it shall not be needful) from the first cogitations of men to their second, and from the nearer times to the times further off. Now let us come to that learning, which both the former times were not so blessed as to know, sacred and inspired Divinity, the Sabaoth and port of all men's labours and peregrinations.

¶ [1] The prerogative of God extendeth as well to the reason as to the will of man; so that as we are to obey his law though we find a reluctation in our will, so we are to believe his word though we find a reluctation in our reason. For if we believe only that which is agreeable to our sense, we give consent to the matter and not to the author; which is no more than we would do towards a suspected and discredited witness; but that faith which was accounted to Abraham for righteousness was of such a point as whereat Sarah laughed, who therein was an image of natural reason.

Howbeit (if we will truly consider it) more worthy it is to believe than to know as we now know. For

[1] De Aug. ix. 1. This chapter is greatly altered in the translation; much of it being entirely omitted, much condensed, and a little added. In the exordium he announces the subject of the book as one which does not belong to human reason and natural philosophy. He will not therefore attempt to lay out the "partitions" of it, but merely offer a few suggestions, concerning not the matter revealed by Theology, but the manner of the revelation. These suggestions, which are but three in number, together with the remarks by which they are introduced, agree substantially with those in the text: all that does not bear immediately upon them being omitted. And I think all the differences may be sufficiently accounted for by the change of design; while the change of design itself may probably have been suggested by the difficulty of expounding the subject of theology on a scale similar to that adopted with regard to other subjects, without introducing matter which might have caused the work to be proscribed in Italy. See note, p. 109.

in knowledge man's mind suffereth from sense, but in belief it suffereth from spirit, such one as it holdeth for more authorised than itself,[1] and so suffereth from the worthier agent. Otherwise it is of the state of man glorified; for then faith shall cease, and we shall know as we are known.

Wherefore we conclude that sacred Theology (which in our idiom we call Divinity) is grounded only upon the word and oracle of God, and not upon the light of nature: for it is written, *Cœli enarrant gloriam Dei*, [the Heavens declare the glory of God,] but it is not written, *Cœli enarrant voluntatem Dei*, [the Heavens declare the will of God,] but of that it is said, *Ad legem et testimonium: si non fecerint secundum verbum istud*, &c., [to the law and to the testimony: if they do not according to this word, &c.]. This holdeth not only in those points of faith which concern the great mysteries of the Deity, of the Creation, of the Redemption, but likewise those which concern the law moral truly interpreted: *Love your enemies: do good to them that hate you: be like to your heavenly Father, that suffereth his rain to fall upon the just and unjust.* To this it ought to be applauded, *Nec vox hominem sonat:* it is a voice beyond the light of nature. So we see the heathen poets, when they fall upon a libertine passion, do still expostulate with laws and moralities, as if they were opposite and malignant to nature: *Et quod, natura remittit, invida jura negant,*

[1] In the translation this is expressed rather differently. *In scientia enim mens* humana *patitur a sensu, qui a rebus materiatis resilit; in fide autem* anima *patitur ab anima, quæ est agens dignius:* Knowledge being (if I understand the meaning rightly) a function of the *anima sensibilis*, faith of the *anima rationalis;* the one receiving its impressions from things material, the other from things spiritual.

[what Nature suffers envious laws forbid]. So said Dendamis the Indian unto Alexander's messengers, That he had heard somewhat of Pythagoras and some other of the wise men of Græcia, and that he held them for excellent men: but that they had a fault, which was that they had in too great reverence and veneration a thing they called law and manners. So it must be confessed that a great part of the law moral is of that perfection, whereunto the light of nature cannot aspire. How then is it that man is said to have by the light and law of nature some notions and conceits of virtue and vice, justice and wrong, good and evil? Thus; because the light of nature is used in two several senses; the one, that which springeth from reason, sense, induction, argument, according to the laws of heaven and earth; the other, that which is imprinted upon the spirit of man by an inward instinct, according to the law of conscience, which is a sparkle of the purity of his first estate: in which later sense only he is participant of some light and discerning touching the perfection of the moral law: but how? sufficient to check the vice, but not to inform the duty. So then the doctrine of religion, as well moral as mystical, is not to be attained but by inspiration and revelation from God.

The use notwithstanding of reason in spiritual things, and the latitude thereof, is very great and general: for it is not for nothing that the apostle calleth religion *our reasonable service of God;* insomuch as the very ceremonies and figures of the old law were full of reason and signification, much more than the ceremonies of idolatry and magic, that are full of non-significants and surd characters. But most specially the

Christian Faith, as in all things so in this, deserveth to be highly magnified; holding and preserving the golden mediocrity in this point between the law of the Heathen and the law of Mahumet, which have embraced the two extremes. For the religion of the Heathen had no constant belief or confession, but left all to the liberty of argument; and the religion of Mahumet on the other side interdicteth argument altogether: the one having the very face of error, and the other of imposture: whereas the Faith doth both admit and reject disputation with difference.

The use of human reason in religion is of two sorts: the former, in the conception and apprehension of the mysteries of God to us revealed; the other, in the inferring and deriving of doctrine and direction thereupon. The former extendeth to the mysteries themselves; but how? by way of illustration, and not by way of argument. The later consisteth indeed of probation and argument. In the former we see God vouchsafeth to descend to our capacity, in the expressing of his mysteries in sort as may be sensible unto us; and doth grift[1] his revelations and holy doctrine upon the notions of our reason, and applieth his inspirations to open our understanding, as the form of the key to the ward of the lock:[2] for the later, there is allowed us an use of reason and argument secondary and respective, although not original and absolute.

[1] So the original and ed. 1629. Ed. 1633 has *graft*.

[2] It being our own duty at the same time to open and enlarge our understanding that it may be capable of receiving them. *Qua tamen in parte nobis ipsis deesse minime debemus; cum enim Deus ipse opera rationis nostræ in illuminationibus suis utatur, etiam nos eandem in omnes partes versare debemus quo magis capaces simus ad mysteria recipienda et imbibenda: modo animus ad amplitudinem mysteriorum pro modulo suo dilatetur, non mysteria ad angustias animi constringantur.*

For after the articles and principles of religion are placed, and exempted from examination of reason, it is then permitted unto us to make derivations and inferences from and according to the analogy of them, for our better direction. In nature this holdeth not; for both the principles are examinable by induction, though not by a medium or syllogism; and besides, those principles or first positions have no discordance with that reason which draweth down and deduceth the inferior positions. But yet it holdeth not in religion alone, but in many knowledges both of greater and smaller nature, namely wherein there are not only *posita* but *placita;* for in such there can be no use of absolute reason. We see it familiarly in games of wit, as chess, or the like; the draughts and first laws of the game are positive, but how? merely *ad placitum*, and not examinable by reason; but then how to direct our play thereupon with best advantage to win the game, is artificial and rational. So in human laws there be many grounds and maxims which are *placita juris*, positive upon authority and not upon reason, and therefore not to be disputed: but what is most just, not absolutely, but relatively and according to those maxims, that affordeth a long field of disputation. Such therefore is that secondary reason which hath place in divinity, which is grounded upon the *placets* of God.

De usu legitimo rationis humanæ in divinis.

Here therefore I note this deficience, that there hath not been to my understanding sufficiently enquired and handled *the true limits and use of reason in spiritual things*, as a kind of divine dialectic: which for that it is not done, it seemeth to me a thing usual, by pretext of true

conceiving that which is revealed, to search and mine into that which is not revealed; and by pretext of enucleating inferences and contradictories, to examine that which is positive; the one sort falling into the error of Nicodemus, demanding to have things made more sensible than it pleaseth God to reveal them; *Quomodo possit homo nasci cum sit senex?* [how can a man be born when he is old?] the other sort into the error of the disciples, which were scandalized at a show of contradiction; *Quid est hoc quod dicit nobis? Modicum, et non videbitis me; et iterum, modicum, et videbitis me*, &c. [what is this that he saith unto us? a little while and ye shall not see me, and again a little while and ye shall see me, &c.]

Upon this I have insisted the more in regard of the great and blessed use thereof; for this point well laboured and defined of would in my judgment be an opiate to stay and bridle not only the vanity of curious speculations, wherewith the schools labour, but the fury of controversies, wherewith the church laboureth. For it cannot but open men's eyes, to see that many controversies do merely pertain to that which is either not revealed or positive; and that many others do grow upon weak and obscure inferences or derivations: which latter sort, if[1] men would revive the blessed style of that great doctor of the Gentiles, would be carried thus, *Ego, non Dominus*, [I, not the Lord,] and again, *Secundum consilium meum*, [according to my counsel;] in opinions and counsels, and not in positions and oppositions. But men are now over-ready to usurp the style *Non ego, sed Dominus*, [not I, but the Lord;] and not so only, but to bind it with the thunder and denuncia-

[1] The original and also edd. 1629 and 1633 have *of*.

tion of curses and anathemas, to the terror of those which have not sufficiently learned out of Salomon that *the causeless curse shall not come.*[1]

Divinity hath two principal parts; the matter informed or revealed, and the nature of the information or revelation: and with the later we will begin,[2] because it hath most coherence with that which we have now last handled. The nature of the information consisteth of three branches; the limits of the information, the sufficiency of the information, and the acquiring or obtaining the information. Unto the limits of the information belong these considerations; how far forth particular persons continue to be inspired; how far forth the church is inspired; and how far forth reason may be used: the last point whereof I have noted as deficient. Unto the sufficiency of the information belong two considerations; what points of religion are fundamental, and what perfective, being matter of further building and perfection upon one and the same foundation; and again, how the gradations of light according to the dispensation of times are material to the sufficiency of belief.

Here again I may rather give it in advice than note it as deficient, that the points fundamental, and the points of further perfection only, ought to be with piety and wisdom distinguished: a subject tending to much like end as that I noted before; for as that other were likely to abate the number of controversies, so this is like to abate the heat of many

De gradibus unitatis in Civitate Dei.

[1] In the translation this last sentence is omitted, and the substance both of this and of the preceding paragraph is set forth in a better order and more concisely, though to the same general effect.

[2] In the translation he expressly confines himself to the latter only, and the rest of the paragraph is omitted.

of them. We see Moses when he saw the Israelite and the Ægyptian fight, he did not say, *Why strive you?* but drew his sword and slew the Ægyptian: but when he saw the two Israelites fight, he said, *You are brethren, why strive you?* If the point of doctrine be an Ægyptian, it must be slain by the sword of the Spirit, and not reconciled; but if it be an Israelite, though in the wrong, then, *Why strive you?* We see of the fundamental points, our Saviour penneth the league thus, *He that is not with us, is against us;* but of points not fundamental, thus, *He that is not against us, is with us.* So we see the coat of our Saviour was entire without seam, and so is the doctrine of the Scriptures in itself; but the garment of the Church was of divers colours, and yet not divided. We see the chaff may and ought to be severed from the corn in the ear, but the tares may not be pulled up from the corn in the field: so as it is a thing of great use well to define what and of what latitude those points are, which do make men merely aliens and disincorporate from the Church of God.[1]

For the obtaining of the information, it resteth upon the true and sound interpretation of the Scriptures, which are the fountains of the water of life. The interpretations of the Scriptures[2] are of two sorts;

[1] Of this paragraph again the substance is given in the translation, though in a somewhat different order; and a sentence is added to the following effect: If any one thinks (he says) that this has been done already, let him consider again and again how far it has been done with sincerity and moderation. In the mean time he who speaks of peace is like enough to receive the answer which Jehu gave to the messenger—*Is it peace, Jehu? What hast thou to do with peace? Get thee behind me.* For it is not peace between the contending opinions that most men have at heart, but the establishment of their own opinions (*cum non pax, sed partes, plerisque cordi sint*).

[2] A sentence is introduced here in the translation, to say that he speaks

methodical, and solute or at large. For this divine water, which excelleth so much that of Jacob's well, is drawn forth much in the same kind as natural water useth to be out of wells and fountains; either it is first forced up into a cistern, and from thence fetched and derived for use; or else it is drawn and received in buckets and vessels immediately where it springeth. The former sort whereof, though it seem to be the more ready, yet in my judgment is more subject to corrupt.[1] This is that method which hath exhibited unto us the scholastical divinity; whereby divinity hath been reduced into an art, as into a cistern, and the streams of doctrine or positions fetched and derived from thence.

In this men have sought three things, a summary brevity, a compacted strength, and a complete perfection; whereof the two first they fail to find, and the last they ought not to seek. For as to brevity, we see in all summary methods, while men purpose to abridge they give cause to dilate. For the sum or abridgment by contraction becometh obscure, the obscurity requireth exposition, and the exposition is deduced into large commentaries, or into common places and titles, which grow to be more vast than the original writings whence the sum was at first extracted. So we see the volumes of the schoolmen are greater much than the first writings of the fathers, whence the Master of the Sentences[2] made his sum or collection. So in like manner

only of the *method* of interpretation, not of the authority: the ground of the authority being the consent of the Church.

[1] This censure, as well as the remarks upon the methodical system which are contained in the three following paragraphs, are omitted in the translation; probably as involving matter which would not have been allowed at Rome.

[2] Peter the Lombard, Bishop of Paris, wrote a Sum of Theology in four

the volumes of the modern doctors of the civil law exceed those of the ancient jurisconsults, of which Tribonian compiled the digest.[1] So as this course of sums and commentaries is that which doth infallibly make the body of sciences more immense in quantity, and more base in substance.

And for strength, it is true that knowledges reduced into exact methods have a shew of strength, in that each part seemeth to support and sustain the other; but this is more satisfactory than substantial; like unto buildings which stand by architecture and compaction, which are more subject to ruin than those which are built more strong in their several parts, though less compacted. But it is plain that the more you recede from your grounds the weaker do you conclude; and as in nature the more you remove yourself from particulars the greater peril of error you do incur, so much more in divinity the more you recede from the Scriptures by inferences and consequences, the more weak and dilute are your positions.

And as for perfection or completeness in divinity, it is not to be sought; which makes this course of artificial divinity the more suspect. For he that will reduce

books, entitled "The Sentences;" and according to the taste of the middle ages acquired the title of "Master of the Sentences." Many of these scholastic titles are curious. Thus Thomas Aquinas is Doctor Angelicus; Buonaventura, Doctor Seraphicus; Alexander Hales, Doctor Irrefragabilis; Duns Scotus, Doctor Subtilis; Raymund Lully, Doctor Illuminatus; Roger Bacon, Doctor Mirabilis; Occam, Doctor Singularis. — *R. L. E.*

[1] Compare with this remark that of Maphæus Vegius — "Existimabas, ut opinor," — he is apostrophising Tribonian — "plurimum conducere utilitati studentium, si quod antea in multitudine tractatuum tardius effecerunt coangustatis postea libris citius adsequi possunt. . . . Sed longe secus ac persuadebas tibi cessit. Quis namque nesciat infinitas et nonnunquam ineptas vanasque interpretationes quibus nulla fere lex exempta est?" See Maphæus Vegius de Verborum significatione, xiv. 77., apud Savigny; History of Roman Law in the Middle Ages, ch. 59. — *R. L. E.*

a knowledge into an art, will make it round and uniform: but in divinity many things must be left abrupt and concluded with this: *O altitudo sapientiæ et scientiæ Dei! quam incomprehensibilia sunt judicia ejus, et non investigabiles viæ ejus!* [O the depth of the wisdom and knowledge of God! How incomprehensible are his judgments, and his ways past finding out!] So again the apostle saith, *Ex parte scimus*, [we know in part,] and to have the form of a total where there is but matter for a part, cannot be without supplies by supposition and presumption. And therefore I conclude, that the true use of these Sums and Methods hath place in institutions or introductions preparatory unto knowledge; but in them, or by deducement from them, to handle the main body and substance of a knowledge, is in all sciences prejudicial, and in divinity dangerous.

As to the interpretation of the Scriptures solute and at large, there have been divers kinds introduced and devised; some of them rather curious and unsafe, than sober and warranted. Notwithstanding thus much must be confessed, that the Scriptures, being given by inspiration and not by human reason, do differ from all other books in the author; which by consequence both draw on some difference to be used by the expositor. For the inditer of them did know four things which no man attains to know; which are, the mysteries of the kingdom of glory; the perfection of the laws of nature; the secrets of the heart of man; and the future succession of all ages.[1] For as to the first, it is said, *He*

[1] Of these four things he mentions in the translation only the two last; introducing the mention of them in the next paragraph but three, and in the mean time omitting altogether both this and the following paragraph.

that presseth into the light, shall be oppressed of the glory: and again, *No man shall see my face and live.* To the second, *When he prepared the heavens I was present, when by law and compass he inclosed the deep.* To the third, *Neither was it needful that any should bear witness to him of Man, for he knew well what was in Man.* And to the last, *From the beginning are known to the Lord all his works.*

From the former two[1] of these have been drawn certain senses and expositions of Scriptures, which had need be contained within the bounds of sobriety; the one anagogical, and the other philosophical. But as to the former, man is not to prevent his time: *Videmus nunc per speculum in ænigmate, tunc autem facie ad faciem:* [now we see through a glass darkly, but then face to face:] wherein nevertheless there seemeth to be a liberty granted, as far forth as the polishing of this glass, or some moderate explication of this ænigma. But to press too far into it, cannot but cause a dissolution and overthrow of the spirit of man. For in the body there are three degrees of that we receive into it; Aliment, Medicine, and Poison; whereof aliment is that which the nature of man can perfectly alter and overcome: medicine is that which is partly converted by nature, and partly converteth nature; and poison is that which worketh wholly upon nature, without that that nature can in any part work upon it. So in the mind whatsoever knowledge reason cannot at all work upon and convert, is a mere intoxi-

[1] *i. e.* from the intimations in the Scriptures concerning the Kingdom of Glory and the Laws of Nature. Edd. 1629 and 1633 have "from the former of these two;" obviously a misprint, though adopted in all modern editions.

cation, and endangereth a dissolution of the mind and understanding.

But for the latter,[1] it hath been extremely set on foot of late time by the school of Paracelsus, and some others, that have pretended to find the truth of all natural philosophy in the Scriptures; scandalizing and traducing all other philosophy as heathenish and profane. But there is no such enmity between God's word and his works. Neither do they give honour to the Scriptures, as they suppose, but much imbase them. For to seek heaven and earth in the word of God, whereof it is said, *Heaven and earth shall pass, but my word shall not pass*, is to seek temporary things amongst eternal: and as to seek divinity in philosophy is to seek the living amongst the dead, so to seek philosophy in divinity is to seek the dead amongst the living:[2] neither are the pots or lavers whose place was in the outward part of the temple to be sought in the holiest place of all, where the ark of the testimony was seated. And again, the scope or purpose of the Spirit of God is not to express matters of nature in the Scriptures, otherwise than in passage, and for application to man's capacity and to matters moral or divine. And it is a true rule, *Authoris aliud agentis parva authoritas;* [what a man says incidentally about matters which are not in question has little author-

[1] *i. e.* the *philosophical* exposition. The "*former*," *i. e.* the *anagogical* exposition, is not mentioned in the translation; which only says that the method of interpretation solute and at large has been carried to excess in two ways; first in supposing such perfection in the Scriptures that all philosophy is to be sought there, secondly in interpreting them in the same manner as one would interpret an uninspired book. The remarks on the first of these excesses coincide with the first half of this paragraph (the rest being omitted), those on the second with the next paragraph.

[2] The rest of this paragraph is omitted in the translation.

ity ;] for it were a strange conclusion, if a man should use a similitude for ornament or illustration sake, borrowed from nature or history according to vulgar conceit, as of a Basilisk, an Unicorn, a Centaur, a Briareus, an Hydra, or the like, that therefore he must needs be thought to affirm the matter thereof positively to be true. To conclude therefore, these two interpretations, the one by reduction or ænigmatical, the other philosophical or physical, which have been received and pursued in imitation of the rabbins and cabalists, are to be confined with a *Noli altum sapere, sed time*, [be not overwise, but fear.]

But the two later points, known to God and unknown to man, touching *the secrets of the heart, and the successions of time*, doth make a just and sound difference between the manner of the exposition of the Scriptures, and all other books. For it is an excellent observation which hath been made upon the answers of our Saviour Christ to many of the questions which were propounded to him, how that they are impertinent to the state of the question demanded; the reason whereof is, because not being like man, which knows man's thoughts by his words, but knowing man's thoughts immediately, he never answered their words, but their thoughts:[1] much in the like manner it is with the Scriptures, which being written to the thoughts of men, and to the succession of all ages, with a foresight of all heresies, contradictions, differing estates of the church, yea and particularly of the elect, are not to be interpreted only according to the latitude of the

[1] And also (the translation adds) because he addressed himself not solely to those present, but to men of all times and places to whom the gospel was to be preached.

proper sense of the place, and respectively towards that present occasion whereupon the words were uttered; or in precise congruity or contexture with the words before or after; or in contemplation of the principal scope of the place; but have in themselves, not only totally or collectively, but distributively in clauses and words, infinite springs and streams of doctrine to water the church in every part;[1] and therefore as the literal sense is as it were the main stream or river; so the moral sense chiefly, and sometimes the allegorical or typical, are they whereof the church hath most use: not that I wish men to be bold in allegories, or indulgent or light in allusions; but that I do much condemn that interpretation of the Scripture which is only after the manner as men use to interpret a profane book.

In this part touching the exposition of the Scriptures, I can report no deficience; but by way of remembrance this I will add: In perusing books of divinity, I find many[2] books of controversies; and many of common places and treatises;[3] a mass of positive divinity, as it is made an art; a number of sermons and lectures, and many prolix commentaries upon the Scriptures, with harmonies and concordances: but that form of writing in divinity, which in my judgment is of all others most rich and precious, is positive divinity collected upon particular texts of Scriptures in brief observations; not dilated into common places, not chasing after controversies, not reduced into method of art; a thing abounding in ser-

[1] The rest of the paragraph is omitted in the translation.

[2] In the translation he says *too many*.

[3] also "cases of conscience" — which he especially commends further on, in a passage not translated.

mons, which will vanish, but defective in books, which will remain; and a thing wherein this age excelleth. For I am persuaded, and I may speak it with an *Absit invidia verbo*, [meaning no offence,] and no ways in derogation of antiquity, but as in a good emulation between the vine and the olive, that if the choice and best of those observations upon texts of Scriptures which have been made dispersedly in sermons within this your Majesty's island[1] of Britain by the space of these forty years and more (leaving out the largeness of exhortations and applications thereupon) had been set down in a continuance, it had been the best work in divinity which had been written since the apostles' times.[2]

Emanationes Scripturarum in doctrinas positivas.

The matter informed by divinity is of two kinds; matter of belief and truth of opinion, and matter of service and adoration; which is also judged and directed by the former; the one being as the internal soul of religion, and the other as the external body thereof. And therefore the heathen religion was not only a worship of idols, but the whole religion was an idol in itself; for it had no soul, that is, no certainty of belief or confession; as a man may well think, con-

[1] So edd. 1629 and 1633. The original has *ilands*.

[2] This last sentence is omitted in the translation, — no doubt as being inadmissible at Rome. But in its place is introduced one of Bacon's happiest illustrations, and one which is not, I think, to be found anywhere in his own English. "Certainly (he says) as we find it in wines, that those which flow freely from the first treading of the grape are sweeter than those which are squeezed out by the wine-press, because the latter taste somewhat of the stone and the rind; so are those doctrines most wholesome and sweet which ooze out of the Scriptures when gently crushed, and are not forced into controversies and common places."

The next six paragraphs are entirely omitted, — as belonging to that part of the subject with which he has professed in the beginning that he will not meddle.

sidering the chief doctors of their church were the poets; and the reason was, because the heathen gods were no jealous gods, but were glad to be admitted into part, as they had reason. Neither did they respect the pureness of heart, so they might have external honour and rites.

But out of these two do result and issue four main branches of divinity; Faith, Manners, Liturgy, and Government. Faith containeth the doctrine of the nature of God, of the attributes of God, and of the works of God. The nature of God consisteth of three persons in unity of Godhead. The attributes of God are either common to the Deity, or respective to the persons. The works of God summary are two, that of the Creation, and that of the Redemption; and both these works, as in total they appertain to the unity of the Godhead, so in their parts they refer to the three persons: that of the Creation, in the mass of the matter to the Father; in the disposition of the form to the Son; and in the continuance and conservation of the being to the Holy Spirit: so that of the Redemption, in the election and counsel to the Father; in the whole act and consummation to the Son; and in the application to the Holy Spirit; for by the Holy Ghost was Christ conceived in flesh, and by the Holy Ghost are the elect regenerate in spirit. This work likewise we consider either effectually in the elect; or privatively [1] in the reprobate; or according to appearance in the visible church.

For Manners, the doctrine thereof is contained in the law, which discloseth sin. The law itself is divided, according to the edition thereof, into the law of

[1] The original, and also edd. 1629 and 1633, have *privately*.

Nature, the law Moral, and the law Positive; and according to the style, into Negative and Affirmative, Prohibitions and Commandments. Sin, in the matter and subject thereof, is divided according to the commandments; in the form thereof, it referreth to the three persons in Deity: sins of Infirmity against the Father, whose more special attribute is Power; sins of Ignorance against the Son, whose attribute is Wisdom; and sins of Malice against the Holy Ghost, whose attribute is Grace or Love. In the motions of it, it either moveth to the right hand or to the left; either to blind devotion, or to profane and libertine transgression; either in imposing restraint where God granteth liberty, or in taking liberty where God imposeth restraint. In the degrees and progress of it, it divideth itself into thought, word, or act. And in this part I commend much the deducing of the law of God to cases of conscience; for that I take indeed to be a breaking, and not exhibiting whole, of the bread of life. But that which quickeneth both these doctrines of faith and manners, is the elevation and consent of the heart; whereunto appertain books of exhortation, holy meditation, Christian resolution, and the like.

For the Liturgy or service, it consisteth of the reciprocal acts between God and man; which, on the part of God, are the preaching of the word and the sacraments, which are seals to the covenant, or as the visible word; and on the part of man,[1] invocation of the name of God, and under the law, sacrifices, which were as visible prayers or confessions: but now the adoration being *in spiritu et veritate*, [in spirit and in truth,] there remaineth only *vituli labiorum*, [offerings

[1] So edd. 1629 and 1633. The original has *mans*.

of the lips ;] although the use of holy vows of thankfulness and retribution may be accounted also as sealed petitions.

And for the Government of the church, it consisteth of the patrimony of the church, the franchises of the church, and the offices and jurisdictions of the church, and the laws of the church directing the whole; all which have two considerations, the one in themselves, the other how they stand compatible and agreeable to the civil estate.

This matter of divinity is handled either in form of instruction of truth, or in form of confutation of falsehood. The declinations from religion, besides the privative,[1] which is atheism and the branches thereof, are three; Heresies, Idolatry, and Witchcraft; Heresies, when we serve the true God with a false worship; Idolatry, when we worship false gods, supposing them to be true ; and Witchcraft, when we adore false gods, knowing them to be wicked and false. For so your Majesty doth excellently well observe, that Witchcraft is the height of Idolatry. And yet we see though these be true degrees, Samuel teacheth us that they are all of a nature, when there is once a receding from the word of God; for so he saith, *Quasi peccatum ariolandi est repugnare, et quasi scelus idololatriæ nolle acquiescere;* [rebellion is as the sin of Witchcraft, and Stubbornness as the crime of Idolatry.]

These things I have passed over so briefly because I can report no deficience concerning them: for I can find no space or ground that lieth vacant and unsown in the matter of divinity; so diligent have men been, either in sowing of good seed or in sowing of tares.

[1] So edd. 1629 and 1633. The original has *primitive*.

THUS have I made as it were a small Globe of the Intellectual World, as truly and faithfully as I could discover; with a note and description of those parts which seem to me not constantly occupate, or not well converted by the labour of man. In which, if I have in any point receded from that which is commonly received, it hath been with a purpose of proceeding *in melius*, and not *in aliud;* a mind of amendment and proficience, and not of change and difference. For I could not be true and constant to the argument I handle, if I were not willing to go beyond others; but yet not more willing than to have others go beyond me again: which may the better appear by this, that I have propounded my opinions naked and unarmed, not seeking to preoccupate the liberty of men's judgments by confutations. For in any thing which is well set down, I am in good hope that if the first reading move an objection, the second reading will make an answer. And in those things wherein I have erred, I am sure I have not prejudiced the right by litigious arguments; which certainly have this contrary effect and operation, that they add authority to error, and destroy the authority of that which is well invented: for question is an honour and preferment to falsehood, as on the other side it is a repulse to truth. But the errors I claim and challenge to myself as mine own. The good, if any be, is due *tanquam adeps sacrificii*, [as the fat of the sacrifice,] to be incensed to the honour, first of the Divine Majesty, and next of your Majesty, to whom on earth I am most bounden.

FILUM LABYRINTHI,

SIVE

FORMULA INQUISITIONIS.

PREFACE.

THE following fragment was first printed in Stephens's second collection (1734), from a manuscript belonging to Lord Oxford, which is now in the British Museum (Harl. MSS. 6797. fo. 139.) As far as it goes, it agrees so nearly with the *Cogitata et Visa* that either might be taken for a free translation of the other, with a few additions and omissions. But I think the English was written first; probably at the time when the idea first occurred to Bacon of drawing attention to his doctrine by exhibiting a specimen of the process and the result in one or two particular cases. The *Cogitata et Visa* professes to be merely a preface framed to prepare the way for an example of a legitimate philosophical investigation proceeding regularly by Tables. Such an example, or at least the plan and skeleton of it, will be found further on, with the title *Filum Labyrinthi, sive Inquisitio legitima de Motu;* and the title prefixed to this fragment is most easily explained by supposing that a specimen of an *Inquisitio legitima* was meant to be included in it.

It is here printed from the original MS. which is a fair copy in the hand of one of Bacon's servants, carefully corrected in his own.

J. S.

FILUM LABYRINTHI,

SIVE FORMULA INQUISITIONIS.

AD FILIOS.[1]

PARS PRIMA.

1. Francis Bacon thought in this manner. The knowledge whereof the world is now possessed, especially that of nature, extendeth not to magnitude and certainty of works. The Physician pronounceth many diseases incurable, and faileth oft in the rest. The Alchemists wax old and die in hopes. The Magicians perform nothing that is permanent and profitable. The Mechanics take small light from natural philosophy, and do but spin on their own little threads. Chance sometimes discovereth inventions; but that worketh not in years, but ages. So he saw well, that the inventions known are very unperfect; and that new are not like to be brought to light but in great length of time; and that those which are, came not to light by philosophy.

2. He thought also this state of knowledge was the worse, because men strive (against themselves) to save the credit of ignorance, and to satisfy themselves in this poverty. For the Physician, besides his cauteles

[1] This is written at the top of the page, in the left-hand corner, in Bacon's hand.

of practice, hath this general cautele of art, that he dischargeth the weakness of his art upon supposed impossibilities: neither can his art be condemned, when itself judgeth. That philosophy also, out of which the knowledge of physic, which now is in use, is hewed, receiveth certain positions and opinions, which (if they be well weighed) induce this persuasion, that no great works are to be expected from art, and the hand of man; as in particular that opinion, *that the heat of the sun and fire differ in kind;* and that other, *that Composition is the work of man, and Mixture is the work of nature*, and the like; all tending to the circumscription of man's power, and to artificial despair; killing in men, not only the comfort of[1] imagination, but the industry of trial; only upon vain glory to have their art thought perfect, and that all is impossible that is not already found. The Alchemist dischargeth his art upon his own errors, either supposing a misunderstanding of the words of his authors, which maketh him listen after auricular traditions; or else a failing in the true proportions and scruples of practice, which maketh him renew infinitely his trials; and finding also that he lighteth upon some mean experiments and conclusions by the way, feedeth upon them, and magnifieth them to the most, and supplieth the rest in hopes. The Magician, when he findeth something (as he conceiveth) above nature effected, thinketh, when a breach is once made in nature, that it is all one to perform great things and small; not seeing that they are but subjects of a certain kind, wherein magic and superstition hath played in all times. The Mechanical person, if he can refine an invention, or put two or three observations

[1] *of* is omitted in the MS.

or practices together in one, or couple things better with their use, or make the work in less or greater volume, taketh himself for an inventor. So he saw well, that men either persuade themselves of new inventions as of impossibilities; or else think they are already extant, but in secret and in few hands; or that they account of those little industries and additions, as of inventions: all which turneth to the averting of their minds from any just and constant labour to invent further in any quantity.

3. He thought also, when men did set before themselves the variety and perfection of works produced by mechanical arts, they are apt rather to admire the provisions of man, than to apprehend his wants; not considering, that the original inventions and conclusions of nature which are the life of all that variety, are not many nor deeply fetched; and that the rest is but the subtile and ruled motion of the instruments and hand; and that the shop therein is not unlike the library, which in such number of books containeth (for the far greater part) nothing but iterations, varied sometimes in form, but not new in substance. So he saw plainly, that opinion of store was a cause of want; and that both works and doctrines appear many and are few.

4. He thought also, that knowledge is uttered to men, in a form as if every thing were finished; for it is reduced into arts and methods, which in their divisions do seem to include all that may be. And how weakly soever the parts are filled, yet they carry the shew and reason of a total; and thereby the writings of some received authors go for the very art: whereas antiquity used to deliver the knowledge which the mind of man

had gathered, in observations, aphorisms, or short and dispersed sentences, or small tractates of some parts that they had diligently meditated and laboured; which did invite men, both to ponder that which was invented, and to add and supply further. But now sciences are delivered to be believed and accepted, and not to be examined and further discovered; and the succession is between master and disciple, and not between inventor and continuer or advancer: and therefore sciences stand at a stay, and have done for many ages, and that which is positive is fixed, and that which is question is kept question, so as the columns of no further proceeding are pitched. And therefore he saw plainly, men had cut themselves off from further invention; and that it is no marvel that that is not obtained, which hath not been attempted, but rather shut out and debarred.

5. He thought also, that knowledge is almost generally sought either for delight and satisfaction, or for gain and profession, or for credit and ornament, and that every of these are as Atalanta's balls, which hinder the race of invention. For men are so far in these courses from seeking to increase the mass of knowledge, as of that mass which is they will take no more than will serve their turn: and if any one amongst so many seeketh knowledge for itself, yet he rather seeketh to know the variety of things, than to discern of the truth and causes of them; and if his inquisition be yet more severe, yet it tendeth rather to judgment than to invention; and rather to discover truth in controversy, than new matter; and if his heart be so large as he propoundeth to himself further discovery or invention, yet it is rather of new discourse and speculation of causes, than of effects and operations: and as for those that

have so much in their mouths, action and use and practice and the referring of sciences thereunto, they mean it of application of that which is known, and not of a discovery of that which is unknown. So he saw plainly, that this mark, namely invention of further means to endow the condition and life of man with new powers or works, was almost never yet set up and resolved in man's intention and inquiry.

6. He thought also, that, amongst other knowledges, natural philosophy hath been the least followed and laboured. For since the Christian faith, the greatest number of wits have been employed, and the greatest helps and rewards have been converted upon divinity. And before time likewise, the greatest part of the studies of philosophers was consumed in moral philosophy, which was as the heathen divinity. And in both times a great part of the best wits betook themselves to law, pleadings, and causes of estate; specially in the time of the greatness of the Romans, who by reason of their large empire needed the service of all their able men for civil business. And the time amongst the Grecians in which natural philosophy seemed most to flourish, was but a short space; and that also rather abused in differing sects and conflicts of opinions, than profitably spent: since which time, natural philosophy was never any profession, nor never possessed any whole man, except perchance some monk in a cloister, or some gentleman in the country, and that very rarely; but became a science of passage, to season a little young and unripe wits, and to serve for an introduction to other arts, specially physic and the practical mathematics. So as he saw plainly, that natural philosophy hath been intended by few persons, and in them hath occupied

the least part of their time, and that in the weakest of their age and judgment.

7. He thought also, how great opposition and prejudice natural philosophy had received by superstition, and the immoderate and blind zeal of religion; for he found that some of the Grecians which first gave the reason of thunder, had been condemned of impiety; and that the cosmographers which first discovered and described the roundness of the earth, and the consequence thereof touching the *Antipodes*, were not much otherwise censured by the ancient fathers of the Christian Church; and that the case is now much worse, in regard of the boldness of the schoolmen and their dependances in the monasteries, who having made divinity into an art, have almost incorporated the contentious philosophy of Aristotle into the body of Christian religion. And generally he perceived in men of devout simplicity, this opinion, that the secrets of nature were the secrets of God and part of that glory whereinto the mind of man if it seek to press shall be oppressed; and that the desire in men to attain to so great and hidden knowledge, hath a resemblance with that temptation which caused the original fall: and on the other side in men of a devout policy, he noted an inclination to have the people depend upon God the more, when they are less acquainted with second causes; and to have no stirring in philosophy, lest it may lead to an innovation in divinity, or else should discover matter of further contradiction to divinity. But in this part resorting to the authority of the Scriptures, and holy examples, and to reason, he rested not satisfied alone, but much confirmed. For first he considered that the knowledge of nature, by the light whereof man discerned of every

living creature, and imposed names according to their propriety, was not the occasion of the fall; but the moral knowledge of good and evil, affected to the end to depend no more upon God's commandments, but for man to direct himself; neither could he find in any Scripture, that the inquiry and science of man in any thing, under the mysteries of the Deity, is determined and restrained, but contrariwise allowed and provoked; for concerning all other knowledge the Scripture pronounceth, *That it is the glory of God to conceal, but it is the glory of man* (*or of the king*, for the king is but the excellency of man) *to invent;* and again, *The spirit of man is as the lamp of God, wherewith he searcheth every secret;* and again most effectually, *That God hath made all things beautiful and decent, according to the return of their seasons; also that he hath set the world in man's heart, and yet man cannot find out the work which God worketh from the beginning to the end;* shewing that the heart of man is a continent of that concave or capacity, wherein the content of the world (that is, all forms of the creatures and whatsoever is not God) may be placed or received; and complaining that through the variety of things and vicissitudes of times (which are but impediments and not impuissances) man cannot accomplish his invention. In precedent also he set before his eyes, that in those few memorials before the flood, the Scripture honoureth the name of the inventors of music and works in metal; that Moses had this addition of praise, that he was seen in all the learning of the Egyptians; that Solomon,[1] in his grant of wisdom from God, had contained as a branch thereof, that knowledge whereby he wrote a natural history of all

[1] So spelt in MS.

verdor, from the cedar to the moss, and of all that breatheth; that the book of Job, and many places of the prophets, have great aspersion of natural philosophy; that the Church in the bosom and lap thereof, in the greatest injuries of times, ever preserved (as holy relics) the books of philosophy and all heathen learning; and that when Gregory the bishop of Rome became adverse and unjust to the memory of heathen antiquity, it was censured for pusillanimity in him, and the honour thereof soon after restored, and his own memory almost persecuted by his successor Sabinian; and lastly in our times and the ages of our fathers, when Luther and the divines of the Protestant Church on the one side, and the Jesuits on the other, have enterprised to reform, the one the doctrine, the other the discipline and manners of the Church of Rome, he saw well how both of them have awaked to their great honour and succour all human learning. And for reason, there cannot be a greater and more evident than this; that all knowledge and specially that of natural philosophy tendeth highly to the magnifying of the glory of God in his power, providence, and benefits; appearing and engraven in his works, which without this knowledge are beheld but as through a veil; for if the heavens in the body of them do declare the glory of God to the eye, much more do they in the rule and decrees of them declare it to the understanding. And another reason not inferior to this is, that the same natural philosophy principally amongst all other human knowledge doth give an excellent defence against both extremes of religion, superstition and infidelity; for both it freeth the mind from a number of weak fancies and imaginations, and it raiseth the mind

to acknowledge that to God all things are possible: for to that purpose speaketh our Saviour in that first canon against heresies delivered upon the case of the resurrection, *You err, not knowing the Scriptures, nor the power of God;* teaching that there are but two fountains of heresy, not knowing the will of God revealed in the Scriptures, and not knowing the power of God revealed or at least made most sensible in his creatures. So as he saw well, that natural philosophy was of excellent use to the exaltation of the Divine Majesty; and that which is admirable, that being a remedy of superstition, it is nevertheless an help to faith. He saw likewise, that the former opinions to the prejudice thereof had no true ground; but must spring either out of mere ignorance, or out of an excess of devotion, to have divinity all in all, whereas it should be only above all (both which states of mind may be best pardoned); or else out of worse causes, namely out of envy, which is proud weakness and deserveth to be despised; or out of some mixture of imposture, to tell a lie for God's cause; or out of an impious diffidence, as if men should fear to discover some things in nature which might subvert faith. But still he saw well, howsoever these opinions are in right reason reproved, yet they leave not to be most effectual hindrances to natural philosophy and invention.

8. He thought also, that there wanted not great contrariety to the further discovery of sciences, in regard of the orders and customs of universities, and also in regard of common opinion. For in universities and colleges men's studies are almost confined to certain authors, from which if any dissenteth or propoundeth

matter of redargution, it is enough to make him thought a person turbulent; whereas if it be well advised, there is a great difference to be made between matters contemplative and active. For in government change is suspected, though to the better; but it is natural to arts to be in perpetual agitation and growth; neither is the danger alike of new light, and of new motion or remove. And for vulgar and received opinions, nothing is more usual nor more usually complained of, than that it is imposed[1] for arrogancy and presumption for men to authorise themselves against antiquity and authors, towards whom envy is ceased, and reverence by time amortised; it not being considered what Aristotle himself did (upon whom the philosophy that now is chiefly dependeth); who came with a professed contradiction to all the world, and did put all his opinions upon his own authority and argument, and never so much as nameth an author but to confute and reprove him; and yet his success well fulfilled the observation of Him that said, *If a man come in his own name, him will you receive.* Men think likewise, that if they should give themselves to the liberty of invention and travail of inquiry, that they shall light again upon some conceits and contemplations which have been formerly offered to the world, and have been put down by better, which have prevailed and brought them to oblivion; not seeing that howsoever the property and breeding of knowledges is in great and excellent wits, yet the estimation and price of them is in the multitude, or in the inclinations of princes and great persons meanly learned. So as those knowledges are like to be received and honoured, which have their

[1] So MS.: a miscopy, I suspect, for *imputed*.

foundation in the subtility or finest trial of common sense, or such as fill the imagination; and not such knowledge as is digged out of the hard mine of history and experience, and falleth out to be in some points as adverse to common sense or popular reason, as religion, or more. Which kind of knowledge, except it be delivered with strange advantages of eloquence and power, may be likely to appear and disclose a little to the world and straight to vanish and shut again. So that time seemeth to be of the nature of a river or flood, that bringeth down to us that which is light and blown up, and sinketh and drowneth that which is solid and grave. So he saw well, that both in the state of religion, and in the administration of learning, and in common opinion, there were many and continual stops and traverses to the course of invention.

9. He thought also, that the invention of works and further possibility was prejudiced in a more special manner than that of speculative truth; for besides the impediments common to both, it hath by itself been notably hurt and discredited by the vain promises and pretences of Alchemy, Magic, Astrology, and such other arts, which (as they now pass) hold much more of imagination and belief than of sense and demonstration. But to use the poets' language, men ought to have remembered that although Ixion of a cloud in the likeness of Juno begat Centaurs and Chimæras, yet Jupiter also of the true Juno begat Vulcan and Hebe. Neither is it just to deny credit to the greatness of the acts of Alexander, because the like or more strange have been feigned of an Amadis or an Arthur, or other fabulous worthies. But though this

in true reason should be, and that men ought not to make a confusion of unbelief; yet he saw well it could not otherwise be in event, but that experience of untruth had made access to truth more difficult, and that the ignominy of vanity had abated all greatness of mind.

10. He thought also, there was found in the mind of man an affection naturally bred, and fortified and furthered by discourse and doctrine, which did pervert the true proceeding towards active and operative knowledge. This was a false estimation, that it should be as a diminution to the mind of man to be much conversant in experiences and particulars subject to sense and bound in matter, and which are laborious to search, ignoble to meditate, harsh to deliver, illiberal to practise, infinite as is supposed in number, and no ways accommodate to the glory of arts. This opinion or state of mind received much credit and strength by the school of Plato, who thinking that particulars rather revived the notions or excited the faculties of the mind, than merely informed; and having mingled his philosophy with superstition, which never favoureth the sense; extolleth too much the understanding of man in the inward light thereof. And again Aristotle's school, which giveth the due to the sense in assertion, denieth it in practice much more than that of Plato. For we see the schoolmen, Aristotle's succession, which were utterly ignorant of history, rested only upon agitation of wit; whereas Plato giveth good example of inquiry by induction and view of particulars; though in such a wandering manner as is of no force or fruit. So that he saw well, that the supposition

of the sufficiency of man's mind hath lost the means thereof.[1]

[1] Here the MS. ends abruptly in the middle of the page. At the top is written in Bacon's hand "The English as much as was parfited." The blank part of the last page seems to have formed the outside of a miscellaneous bundle, and bears the following docket, also in Bacon's hand, "Severall fragments of discourses."

DE

INTERPRETATIONE NATURÆ

PROŒMIUM.

PREFACE

TO THE

DE INTERPRETATIONE NATURÆ PROŒMIUM.

THE paper that bears this title was first published by Gruter. He printed it among the *Impetus Philosophici* (concerning which see Preface to Part II. Vol. V. p. 187.) where it stands by itself, unconnected with the neighbouring pieces. Hence I conclude that it was one of the loose papers.

Its date may be partly inferred from the contents. Bacon speaks of himself in it as a man no longer young,[1] yet not old;[2] and as one who having been a candidate (apparently without success) for office in the state, had at length resolved to abandon that pursuit and betake himself entirely to this work.[3] All this suits very well with his position in the summer of 1603, when he desired "to meddle as little as he could in the King's causes" and "put his ambition wholly upon his pen;" at which time also he was engaged on a work concerning the "Invention of Sciences," which he had digested into two parts, whereof one was entitled *Interpretatio Naturæ*. And since this proœmium was evidently intended to stand as a general intro-

[1] *cum ætas jam consisteret.* [2] *hominem non senem.*

[3] *ab istis cogitationibus me prorsus alienavi et in hoc opus ex priore decreto me totum recepi.*

duction to some great work bearing that title, we cannot be far wrong, I think, in placing it next to the *Advancement of Learning* and in connexion with the pieces which follow.

All that is of general application in it was afterwards digested into the first book of the *Novum Organum*. But it retains a peculiar interest for us on account of the passage in which he explains the plans and purposes of his life, and the estimate he had formed of his own character and abilities; — a passage which was replaced in the days of his greatness by a simple *De nobis ipsis silemus*. It is the only piece of autobiography in which he ever indulged, and deserves on several accounts to be carefully considered.

When a man's life and character have any interest for posterity, it is always good to have his own account of them; for no one can tell so well what objects he proposed to himself, and how he set about to accomplish them; without a knowledge of which it must always be impossible to form a true judgment of his career. We have here Bacon's own account, written when he was between 40 and 50, of the plan upon which his life had been laid out. And if we accept it as sincere, — if we believe that such were indeed the objects which he mainly aimed at, and such the motives which mainly guided him, — the course which he actually followed in the various conjunctures of his life will present few difficulties; but will be found (after reasonable allowance made for human accidents without, and human infirmities within) very natural and consistent from first to last, — in fact a very remarkable example of constancy to an original design. He began by conceiving that a wiser method of studying nature would give man

the key to all her secrets, and therewith the mastery of all her powers. If so, what boon so great could a man bestow upon his fellow-men? But the work would be long and arduous, and the event remote; and in the mean time he was not to neglect the immediate and peculiar services which as an Englishman he owed to his country and as a Protestant to his religion. He set out with the intention of doing what he could towards the discharge of all three obligations, and planned his course accordingly. With regard to the two last however, he found as life wore away that the means and opportunities which he had hoped for did not present themselves; and fearing that all would fail together if he lost more time in waiting for them, he resolved to fall back upon the first as an enterprise which depended for success upon himself alone.

So his case stood when he drew up this paper. Afterwards, though new exigencies of state gave him an opening for service and drew him again into business and politics, he did not cease to devote his leisure to the prosecution of his main object; and as soon as his fall restored to him the entire command of his time, he again made it his sole occupation.

So far therefore, his actual course was quite consistent with his first design; and it is even probable that this very constancy was in some degree answerable for the great error and misfortune of his life. That an absorbing interest in one thing should induce negligence of others not less important, is an accident only too natural and familiar; and if he did not allow the *Novum Organum* to interfere with his attention to the causes which came before him in Chancery, it did probably prevent him from attending as carefully as he

should and otherwise would have done to the proceedings of his servants and the state of his accounts.

Had his main design been successful, the story of his life would have stood simply thus, and called for no further speculation. But there is one thing (though his popular reputation as the father of modern science has prevented it from being remarked) which still remains to be explained; and which is in fact very difficult to reconcile with the opinion almost universally entertained with regard to his philosophical genius. How is it that abilities like his, applying themselves to a practical object for so many years together with such eager interest and laborious industry, met with so little success? I assume of course (what indeed cannot be reasonably doubted) that he was no mere talker or trifler, but a true workman, with genuine zeal and faith in his work. How is it then that he did not succeed, if not in accomplishing, yet in putting in a way to be accomplished, or in persuading somebody to think capable of accomplishment, some part at least of the work which he had so much at heart? If the end was unattainable, how is it that he did not find that out? If he had mistaken the way, how is it that he did not himself discover the error as he proceeded? If he failed from not well understanding the use of some of the necessary implements, why did he not apply himself to learn the use of them, or seek help from those who did understand it? He may have neglected mechanics and mathematics in his youth because he did not then know their importance; but he could hardly have proceeded far in the attempt to weigh and measure and analyse the secret forces of nature, without finding the want, long before it was too late to commence

the study of them. For although, as taught at Cambridge in those days, they did not perhaps promise much help; yet in the hands of the leading scientific men of Europe they had become an instrument of too much value to have long escaped the notice of a diligent enquirer into the true condition of knowledge.

The only explanation which appears to me sufficient to account for the fact is this: Bacon's deficiency lay in the intellect itself. It seems that there was one intellectual faculty in which he was comparatively weak, and that not being himself aware of the extent and importance of the defect, he miscalculated the amount of his own forces. That he was not altogether aware of this deficiency, may be inferred I think from the remarkable passage to which I have alluded in the paper before us, and which it is worth while to examine in detail.

After considering what was the best thing to be done, he proceeds to consider what he was himself best fitted to do. He finds in himself a mind at once discursive enough to seize resemblances, and steady enough to distinguish differences; a mind eager in search, patient of doubt, fond of meditation, slow to assert, ready to reconsider, careful to dispose and set in order; not carried away either by love of novelty or by admiration of antiquity, and hating every kind of imposture; a mind therefore especially framed for the study and pursuit of truth.

Such it seems was Bacon's deliberate, candid, and sober estimate of his own qualities; and (high as it sounds) I conceive it to be, in all respects but one, a just estimate. In the large discursive faculty which detects analogies and resemblances between different and distant things, it would be difficult probably to

name his equal. In the moral qualities for which he gives himself credit, he was not less eminent. His senses and powers of observation were lively and exquisite; and his judgment also, where it had to deal with the larger features of things, or with those which being too subtle and fleeting to admit of exact demonstration and analysis, must be studied by the broader light of the imagination and discursive reason, was clear and deep and sound. But it is impossible, I think, to read Mr. Ellis's remarks upon those parts of his works in which he comes in contact with what we call the *exact sciences*, — mathematics, for instance, and mechanics, — and not to feel that in the faculty of *distinguishing differences*, — the faculty whose office is (as he describes it in the *Novum Organum*, i. 55.) *figere contemplationes, et morari et hærere in omni subtilitate differentiarum*, — he was (comparatively at least) deficient. This appears both from the imperfect account of the existing condition of those sciences which he gives in the *De Augmentis Scientiarum;* no notice being there taken of some of the most important advances which had been made by the writers immediately preceding him; and from his own experiments and speculations upon subjects which required their help. Though he paid great attention to Astronomy, discussed carefully the methods in which it ought to be studied, constructed for the satisfaction of his own mind an elaborate theory of the heavens, and listened eagerly for the news from the stars brought by Galileo's telescope, he appears to have been utterly ignorant of the discoveries which had just been made by Kepler's calculations.[1] Though he complained in 1623 of the want of compen-

[1] See Mr. Ellis's Preface to the *Descriptio Globi Intellectualis.*

dious methods for facilitating arithmetical computations, especially with regard to the doctrine of Series, and fully recognised the importance of them as an aid to physical enquiries; he does not say a word about Napier's Logarithms, which had been published only nine years before and reprinted more than once in the interval.[1] He complained that no considerable advance had been made in Geometry beyond Euclid, without taking any notice of what had been done by Archimedes and Apollonius.[2] He saw the importance of determining accurately the specific gravities of different substances, and himself attempted to form a table of them by a rude process of his own, without knowing of the more scientific though still imperfect methods previously employed by Archimedes, Ghetaldus, and Porta.[3] He speaks of the εὕρηκα of Archimedes in a manner which implies that he did not clearly apprehend either the nature of the problem to be solved or the principles upon which the solution depended.[4] In reviewing the progress of Mechanics, he makes no mention either of Archimedes himself, or of Stevinus, Galileo, Guldinus, or Ghetaldus.[5] He makes no allusion to the theory of Equilibrium.[6] He observes that a ball of one pound weight will fall nearly as fast through the air as a ball of two, without alluding to the theory of the acceleration of falling bodies, which had been made known by Galileo more than thirty years before.[7] He proposes an inquiry with regard to the lever, — namely, whether in a balance with arms of different length but equal weight the distance

[1] See Vol. II. p. 306. note 1.
[2] Id. p. 305. note 1.
[3] See Preface to the *Historia Densi et Rari*, Vol. IV. p. 15.
[4] Id. p. 16.
[5] See Vol. II. p. 299. note 1.
[6] Id. p. 307. note 1.
[7] Id. p. 374. note 2.

from the fulcrum has any effect upon the inclination — though the theory of the lever was as well understood in his own time as it is now.[1] In making an experiment of his own to ascertain the cause of the motion of a windmill, he overlooks an obvious circumstance which makes the experiment inconclusive, and an equally obvious variation of the same experiment which would have shown him that his theory was false.[2] He speaks of the poles of the earth as fixed, in a manner which seems to imply that he was not acquainted with the precession of the equinoxes;[3] and in another place of the north pole being above, and the south pole below, as a reason why in our hemisphere the north winds predominate over the south.[4]

This list, for which I am entirely indebted to Mr. Ellis's prefaces and notes, might probably be increased; but the instances enumerated are sufficient to shew not only that Bacon was ill read in the history of these branches of learning, (and yet it was in this direction that science was making the most real and rapid advances,) but also that upon such subjects his ideas were not clear; this latter defect being no doubt the cause of the other; for where he could not readily follow the steps of the investigation, he could hardly appreciate the value of the result.

In the fact itself there would be nothing to create surprise. That of two faculties so opposite in their nature as to suggest a main division of human intellects according to their several predominance,[5] the same

[1] Vol. II. p. 392. note 2.

[2] See Preface to *Historia Ventorum*, Vol. III. p. 198.

[3] Vol. I. p. 507. note 3.

[4] Vol. III. p. 229. note 1.

[5] Maximum et velut radicale discrimen ingeniorum, quoad philosophiam et scientias, illud est; quod alia ingenia sint fortiora et aptiora ad

mind should be largely endowed with one and scantily with the other, is an accident far less singular than the perfect developement in the same mind of both together. The only wonder is (since a good understanding is generally aware of its own defects) that if Bacon's was really weak in this department, he did not find the weakness out before he was five-and-forty. A sufficient explanation of this may however be found, I think, partly in the excessive activity of his discursive faculty, which coming to the rescue in every perplexity with a throng of ingenious suggestions, seduced his attention from the exact point at issue and flattered him that the time was come for a *permissio intellectus*; — partly in the great pains which he took to lay his subject out in titles, articles, sections, divisions, and subdivisions, all named and numbered; the effect of which would be to give his investigations an appearance, though a superficial and delusive one, of exact and delicate discrimination; — and partly in the magnanimous hopefulness of his nature, which inclined him to trust too much to the *labor omnia vincit* and the *possunt quia posse videntur*. As he would not believe that nature contained labyrinths impenetrable by the mind, so he would not believe that the mind contained obstructions insuperable by patient industry. And believing on the other hand as he certainly did, that the divine blessing was upon his enterprise, he accepted all delays and disappointments as nothing more than

> the protractive trials of great Jove
> To find persistive constancy in men.

But however this may be, I see no way of escaping

notandas rerum differentias; alia ad notandas rerum similitudines. — *Nov. Org.* i. 55.

the conclusion that his intellect was in this particular faculty originally defective; and that, whether he knew of the defect or not, he did not succeed in overcoming it.

Nor am I aware that the supposition involves any further difficulty. It does not require us to question any of his other intellectual attributes. For it is certain that as an eye which has lost the power of reading small print may yet be perfect in its judgment of form, colour, distance, and proportion; so a mind which cannot take distinct impressions of subtle and minute differences of ideas, or cannot retain such impressions long enough or easily enough for the purpose of exact comparison, may nevertheless be perfect in its power of dealing with all ideas which it can distinguish and compare. And I suppose that if Bacon could have put on a pair of intellectual spectacles, analogous in their effect on the understanding to that of clearers on an eye which is growing dim with age, he would have seen in an instant the true import and value of the reasonings of Archimedes, Copernicus, Galileo, Ghetaldo, and Kepler, and would have become aware in the same instant that he had never before really understood them. The lens through which he had been looking had not been adjusted to the object, and had transmitted a confused image to the mental retina.

The existence of this defect being once admitted and allowed for, the rest of the wonder disappears at once. Grant this, and the question which I began by proposing is readily answered. Bacon failed to devise a practicable method for the discovery of the Forms of Nature, because he misconceived the conditions of the case; he expected to find the phenomena of nature

more easily separable and distinguishable than they really are; a misconception into which a discursive intellect, an enterprising spirit, and a hopeful nature, would most naturally fall. He failed to discover his error, because in all the cases in which he tried to carry his method out, the further he advanced towards his object the more he needed the very faculty in which he was most wanting, and was baffled by the difficulties which presented themselves before he had met with any which were in their nature insuperable. For the same reason he failed even to make any single discovery which holds its place as one of the steps by which science has in any direction really advanced. The clue with which he entered the labyrinth did not reach far enough: before he had nearly attained the end, he was obliged either to come back or to go on without it. He began with an attempt to investigate the nature of *Motion* in general: the result remains in a long list of titles and divisions, exhibiting merely the plan upon which he proposed to conduct the enquiry;[1] and this plan he appears afterwards to have abandoned; for the doctrine of motion was ultimately remitted to a subordinate place in the *Novum Organum* among the Prerogatives of Instances. He then tried the nature of *Sound:* the result remains in the *Sylva Sylvarum*, in a large collection of curious observations and experiments; rough materials for an induction which he does not seem to have carried further. Finally he selected the nature of *Heat* as the subject to try his method upon, and commenced a systematic enquiry which was to be offered as a specimen of it: the result of this we have seen in the *Novum Organum;* and though he

[1] See *Inquisitio Legitima de Motu;* in Vol. VII.

proceeded in it but a little way, it appears that he was already beginning to lose himself among the subtler phenomena which presented themselves; for it is the opinion of the best judges that he has there confounded things essentially different, and rested in conclusions not legitimately deducible from the facts from which they profess to be deduced.[1] And so no doubt it would have been in any other subject of investigation which he might have taken in hand. He would soon have arrived at a point where the phenomena of nature could not be separated accurately enough for the purposes of the enquiry without instruments more delicate and exact, or modes of calculation more subtle and complicated, than any which he could have devised or used.

Nor is this the only difficulty of which we thus obtain a more natural explanation than has hitherto I think been suggested. For the same defect would interfere with his metaphysical speculations; and may serve therefore to account for the misappreciation of Aristotle with which he is now commonly charged, apparently upon good authority. It would interfere with his success as a lawyer; the law having then (very unfortunately, in my opinion) fallen entirely into the hands of men whose strength was in subtlety of distinction, and not in that broad common sense which ought (one would think) to be the ruling principle in an institution with which all classes are alike concerned; and thus it serves to account for his failure to obtain that authority in his profession to which he certainly thought himself entitled. It would interfere

[1] See Mr. Ellis's note on the *Vindemiatio prima* (Vol. I. p. 397.); and compare Whewell, *Phil. of Ind. Sci.* book II. ch. 11.

with his speculations in a science like political economy, and so accounts for his being so little before his age in his views with regard to usury, trade, &c. It supplies also a natural explanation of another singular fact; namely, the little communication which he seems to have had with the scientific men of his own time, and the solitude in which (as he himself complained) he was compelled to prosecute his enterprise. For we know of no man of any scientific eminence, who was either a fellow-labourer or a disciple. But the truth is that such a defect (though the perfection of his intellect in those departments where we can all more or less judge of it, coupled with his reputation for genius in regions into which few are competent to follow him, has prevented posterity from suspecting it) could hardly have escaped the notice of competent judges in his own time who knew him. And accordingly we find that William Harvey, "though he esteemed him much for his wit and style, would not allow him to be a great philosopher. 'He writes philosophy' (said Harvey to Aubrey) 'like a Lord Chancellor'—speaking in derision."[1] And it is easy to imagine that if Newton (for instance) had been a young man in Bacon's later years, they would not have been able to work together, but would probably have kept by mutual consent respectfully aloof from each other. And this enables us to account for that silence with regard to his contemporaries for which he has been so severely censured by Coleridge and others, better than by supposing that he was either jealous of their rivalry or illiberally incredulous as to their merit. It was merely that he did not like to pronounce judgment where he did not

[1] Aubrey's Lives, ii. 281.

feel that he understood the case; and if he did not take more pains to understand the case, it was only because it lay in a region in which he could not himself find conclusions which he felt that he could safely depend upon. He could follow Gilbert in his enquiries concerning the loadstone; and he was not silent about *him*, but refers to him frequently, with praise both of his industry and his method; censuring him only for endeavouring to build a universal philosophy upon so narrow a basis. So again with regard to Galileo. The direct revelations of the telescope were palpable, and he was not silent about them; but hailed the invention as a *memorabilis conatus*, — a thing *dignum humano genere:* there was no doubt that it brought within the range of vision things invisible before. But when it came to the inferences deducible from the phenomena thus revealed, he could no longer speak with confidence. It was then "hinc demonstrari *videtur*," and "quatenus fides hujusmodi demonstrationibus tuto adhiberi possit:" the language of a man who did not feel certain in his own mind whether the demonstration was conclusive or not,—which is the natural condition of a man who does not thoroughly understand it.

I need hardly add that the admission of this defect in Bacon does not in any way diminish either the value of his real services to philosophy, — of the general principles which he laid down, and those large and just views as to the nature of science and of man's mind which came out of the real depths of his own genius, — or the respect due to himself. The truths which he told must stand for ever, because they *are* truths; and until some one else shall embody them

in language juster, nobler, more impressive, and more comprehensive than his, his name will stand as the author of them. And for the rest, a more correct appreciation of the difficulties with which he had to struggle, instead of diminishing our sense of what we owe him, ought only to increase our admiration of the high instinct which suggested the end, the courageous hope with which he entered upon the pursuit of it, and the undaunted resolution with which (however unsuccessfully) he followed it up.

Another thing in the paper before us, not to be found elsewhere in Bacon's writings, is the prophecy of *civil wars;* which he anticipates *propter mores quosdam non ita pridem introductos:* a prediction well worthy of remark, especially as being uttered so early as the beginning of James the First's reign.

J. S.

DE

INTERPRETATIONE NATURÆ

PROŒMIUM.

Ego cum me ad utilitates humanas natum existimarem, et curam reipublicæ inter ea esse quæ publici sunt juris et velut undam aut auram omnibus patere interpretarer; et quid hominibus maximę conducere posset quæsivi, et ad quid ipse a natura optime factus essem deliberavi. Inveni autem nil tanti esse erga genus humanum meriti, quam novarum rerum et artium, quibus hominum vita excolatur, inventionem et auctoramentum. Nam et priscis temporibus, apud homines rudes, rudium rerum inventores et monstratores consecratos fuisse, et in deorum numerum optatos, animadverti; et acta heroum, qui vel urbes condiderunt, vel legumlatores extiterunt, vel justa imperia exercuerunt, vel injustas dominationes debellarunt, locorum et temporum angustiis circumscripta esse notavi: rerum autem inventionem, licet minoris pompæ sit res, ad universalitatis et æternitatis rationem magis accommodatam esse censui. Ante omnia vero, si quis non particulare aliquod inventum, licet magnæ utilitatis,

eruat, sed in natura lumen accendat, quod ortu ipso oras rerum quæ res jam inventas contingunt illustret, dein paulo post elevatum abstrusissima quæque patefaciat et in conspectum det, is mihi humani in universum imperii propagator, libertatis vindex, necessitatum expugnator visus est. Me ipsum autem ad veritatis contemplationes, quam ad alia, magis fabrefactum deprehendi; ut qui mentem et ad rerum similitudinem (quod maximum est) agnoscendam satis mobilem, et ad differentiarum subtilitates observandas satis fixam et intentam haberem; qui et quærendi desiderium, et dubitandi patientiam, et meditandi voluptatem, et asserendi cunctationem, et resipiscendi facilitatem, et disponendi sollicitudinem tenerem; quique nec novitatem affectarem, nec antiquitatem admirarer, et omnem imposturam odissem. Quare naturam meam cum veritate quandam familiaritatem et cognationem habere judicavi. Attamen cum genere et educatione rebus civilibus imbutus essem, et opinionibus aliquando, utpote adolescens, labefactarer, et patriæ me aliquid peculiare, quod non ad omnes alias partes ex æquo pertineat, debere putarem, speraremque me, si gradum aliquem honestum in republica obtinerem, majore ingenii et industriæ subsidio quæ destinaveram perfecturum; et artes civiles didici, et qua debui modestia amicis meis, qui aliquid possent, salva ingenuitate me commendavi. Accessit et illud, quod ista, qualiacunque sint, non ultra hujusce mortalis vitæ conditionem et culturam penetrant; subiit vero spes me natum religionis statu haud admodum prospero, posse, si civilia munia obirem, et aliquid ad animarum salutem boni procurare. Sed cum studium meum ambitioni

deputaretur, et ætas jam consisteret, ac valetudo affecta et malæ tarditatis meæ me admoneret, et subinde reputarem me officio meo nullo modo satisfacere, cum ea per quæ ipse hominibus per me prodesse possem omitterem, et ad ea quæ ex alieno arbitrio penderent me applicarem; ab illis cogitationibus me prorsus alienavi, et in hoc opus ex priore decreto me totum recepi. Nec mihi animum minuit, quod ejus quæ nunc in usu est doctrinæ et eruditionis, declinationem quandam et ruinam in temporum statu prospicio. Tametsi enim barbarorum incursiones non metuam (nisi forte imperium Hispanum se corroboraverit, et alios armis, se onere, oppresserit et debilitarit), tamen ex bellis civilibus (quæ mihi videntur propter mores quosdam non ita pridem introductos multas regiones peragratura), et ex sectarum malignitate, et ex compendiariis istis artificiis et cautelis quæ in eruditionis locum surrepserunt, non minor in literas et scientias procella videbatur impendere. Nec typographorum officina his malis sufficere queat. Atque ista quidem imbellis doctrina, quæ otio alitur, præmio et laude efflorescit, quæ vehementiam opinionis non sustinet, et artificiis et imposturis eluditur, iis quæ dixi impedimentis obruitur. Longe alia ratio est scientiæ, cujus dignitas utilitatibus et operibus munitur. Ac de temporum injuriis fere securus sum, de hominum vero injuriis non laboro. Si quis enim me nimis altum sapere dicat, respondeo simpliciter, in civilibus rebus esse modestiæ locum, in contemplationibus veritati. Si quis vero opera statim exigat, aio sine omni impostura, me hominem non senem valetudinarium, civilibus studiis implicatum, rem omnium obscurissimam sine duce ac luce aggres-

sum, satis profecisse si machinam ipsam ac fabricam exstruxerim, licet eam non exercuerim aut moverim. Ac eodem candore profiteor, interpretationem naturæ legitimam, in primo adscensu antequam ad gradum certum generalium perventum sit, ab omni applicatione ad opera puram ac sejunctam servari debere. Quin et eos omnes qui experientiæ se undis aliqua ex parte dediderunt, cum animo parum firmi aut ostentationis cupidi essent, in introitu operum pignora intempestive investigasse, et inde exturbatos et naufragos fuisse scio. Si quis autem pollicitationes saltem particulares requirat, is noverit homines per eam quæ nunc in usu est scientiam ne satis doctos ad optandum quidem esse. Quod autem minoris momenti res est, si quis ex politicis judicium suum in istiusmodi re inserere præsumat, quibus moris est ex personæ calculis singula æstimare vel ex similis conatus exemplis conjecturam facere, illi dictum volo et illud vetus, claudum in via cursorem extra viam antevertere, et de exemplis non cogitandum, rem enim sine exemplo esse. Publicandi autem ista ratio ea est, ut quæ ad ingeniorum correspondentias captandas et mentium areas purgandas pertinent, edantur in vulgus et per ora volitent; reliqua per manus tradantur cum electione et judicio. Nec me latet usitatum et tritum esse impostorum artificium, ut quædam a vulgo secernant, nihilo iis ineptiis quas vulgo propinant meliora. Sed ego sine omni impostura ex providentia sana prospicio, ipsam interpretationis formulam et inventa per eandem, intra legitima et optata ingenia clausa, vegetiora et munitiora futura. Ipse vero alieno periculo ista molior. Mihi enim nil eorum quæ ab externis